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ABSTRACT

The purpose of this conference was to prepare key people in the field of education to function as inservice education leaders in their respective settings. It called for participants to learn what the MOREL inservice education program is and what it hopes to accomplish, to identify the role and functions of the inservice education leader, and to acquire the skills and techniques necessary to implement the program. The first part of the document lists the conferees and includes summaries of all the conference sessions. The second part contains the conference materials including a general information statement on MOREL; a discussion of teacher behavior and student learning; detailed definitions of the functions of the inservice leader as analyst/counselor, teacher, mediator, and program administrator; Flanders' interaction analysis categories, with ground rules, data sheet and a sample matrix; a section on the technical skills of teaching (subscripting coding, probing questions, clarifying questions, questions that raise or lower the level of abstraction, possible student behaviors, and open or closed questions); and behavioral objectives. Related documents are ED 035 095 and SP 004 951. (MBM)

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LEADER TRAINING CONFERENCE REPORT

December 2-13, 1968

SP004950

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The first MOREL In-Service Education Leader Training Conference was held in Detroit, December 2-13, 1968. The purpose of the conference was to prepare key people in the field of education to function as in-service education leaders in their respective settings.

MOREL's in-service education program is focused primarily on developing a strategy helpful in improving the day-to-day classroom behavior of teachers. The strategy is composed of elements or techniques that help teachers analyze their teaching behavior and, when indicated, change toward improving their teaching effectiveness and improving students' learning.

The conference design called for the participants to:

1. learn what the MOREL in-service education program is and what it hopes to accomplish,

2. identify the role and functions of the in-service education leader, and

3. acquire the skills and techniques necessary to implement the in-service education program.

MOREL LEADER TRAINING CONFERENCE

December 2-13, 1968

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CONFERENCE LOG

MONDAY, DECEMBER 2	9:00 a.m.	General Session
	10:00 a.m.	Overview of Inservice Program
	10:30 a.m.	Teacher Behavior and Student Learning
	11:00 a.m.	Training Group Assignments
	11:15 a.m.	Training Group Session (Does MOREL apply to locales represented?)
	11:45 a.m.	Observations by the Executive Director of MOREL
	1:30 p.m.	Training Group Session (Role of the in-service leader) (Plans for program emphasis at conference)
	4:30 p.m.	General Session
	7:00 p.m.	General Session
TUESDAY, DECEMBER 3	8:45 a.m.	General Session
	9:00 a.m.	Introduction of Interaction Analysis
	9:30 a.m.	TRAINING GROUP SESSIONS (practice coding)
	10:30 a.m.	Video Tape as a Tool for Teacher Confrontation of Behavior
	1:30 p.m.	Training Group Sessions A. Micro-teach B. Matrix Interpretation C. Matrix Interpretation
	7:00 p.m.	Video Tape Equipment

WEDNESDAY, DECEMBER 4	9:00 a.m.	Behavioral Objectives
	10:30 a.m.	Training Group Sessions A. Matrix Interpretation B. Micro-teach C. Student Feedback & coding
	7:00 p.m.	CLINIC
THURSDAY, DECEMBER 5	8:45 a.m.	General Session
	9:00 a.m.	Technical Skills of Teaching
	10:00 a.m.	Training Groups (discussion of Technical Skills)
	1:00 p.m.	Training Groups A. coding & Student Feedback B. coding & Student Feedback C. Student Feedback & Micro-teach
	7:00 p.m.	CLINIC
FRIDAY, DECEMBER 6	8:45 a.m.	General Session coding test matrix construction matrix interpretation
	10:45 a.m.	Overview of Strategies for Analysis and Improvement presentation critique
	1:30 p.m.	Training Group Sessions
	7:00 p.m.	CLINIC
SATURDAY, DECEMBER 7	9:00 a.m.	CLINIC AT MOREL
MONDAY, DECEMBER 9	8:00 a.m.	Data Gathering in Schools
	1:30 p.m.	Training Group Sessions
	7:00 p.m.	CLINIC

TUESDAY, DECEMBER 10	9:00 a.m.	Analyst and Counseling Functions
	10:15 a.m.	Training Group Sessions
	2:30 p.m.	Feedback to Teachers at Schools
	evening	Critiques of Feedback Sessions
	7:00 p.m.	CLINIC
WEDNESDAY, DECEMBER 11	8:45 a.m.	General Session
	9:00 a.m.	Coding Test
	10:30 a.m.	Group 1 preparation for Micro-teach Micro-teach Clinic
		Group 2 Mediator of Research Role
	evening	Individual conferences
	7:00 p.m.	CLINIC
THURSDAY, DECEMBER 12	8:45 a.m.	General Session
	9:30 a.m.	Group 1 Mediator of Research Role
		Group 2 Micro-teach Clinic
	evening	Individual conferences
	7:00 p.m.	CLINIC
FRIDAY, DECEMBER 13	9:00 a.m.	General Session
	9:30 a.m.	Post Conference Evaluation
	11:00 a.m.	General Session

CONFERENCE SESSIONS

MONDAY, DECEMBER 2

GENERAL SESSION

Norman McRae opened the Leader Training Conference in the Abbey Room of the London Inn. He welcomed the participants and introduced the members of the training staff. The remainder of the session was devoted to the preparation of "resumes" as an introductory exercise.

OVERVIEW OF IN-SERVICE PROGRAM

Lilburn Hoehn, Director of Teacher Education Programs, gave an overview of the MOREL in-service program. He cited eight underlying assumptions of the program:

1. Teachers need and want to become more effective.

2. The majority of teachers can be trained to direct their own improvement efforts.

3. Self-directed changes are more likely to persist than imposed changes.

4. Direct attention to the teaching act itself will have greater impact than attention to other factors such as development of content or curriculum materials.

5. A program developed with practicing teachers will have more potential than a pre-designed program.

6. An effective program is applicable in a variety of teaching situations.

7. A change in the pre-service education of teachers is more likely if an alternative is shown to be effective in an in-service education program.

8. An in-service program must be replicable.

Lilburn went on to tell the history of the development of MOREL's in-service program. The original design was field tested during the 1967-68 school year in Livonia, Pontiac, and Toledo. After these tests the program was revised and the new design was field tested in ten inner-city Detroit junior high schools in the summer of 1968. The program was further refined and new field tests are going on at the present time in two locations. The components of the new design were described.

Lilburn explained the three stages of development in the MOREL planning for implementation of a teacher education package.

1. Teacher Training -- the work of the past sixteen months for developing an in-service education program that is a viable alternative to present efforts.

2. Leader Training -- the training of others to return to their schools and implement the in-service education program.

3. Installation -- getting both of the above components installed in institutions responsible for the education of teachers.

TEACHER BEHAVIOR AND STUDENT LEARNING

Delmo Della-Dora, Director of Planning, discussed the ways that the MOREL program differs from the usual in-service teacher education and teacher supervision approaches. He pointed out how each of the usual approaches are inefficient.

Delmo pointed out that studies show significant relationship between certain patterns of teacher behavior and what students learn. No set of behaviors will guarantee specific learnings but there are strong correlations. The MOREL program recognizes that there are limitations and cautions to be taken into consideration. The important point is that there is no one "package" that can be wrapped up and labeled "good teacher." So the purposes of MOREL in examining teacher behaviors are not to find "ideal" teacher behaviors but to help teachers to:

1. become more aware of what they actually do as they work with students

2. discover for themselves the effects of their behavior on student learning

3. find ways to develop some new approaches, new behaviors, which will be more effective in attaining their own goals

4. and learn the use of various techniques which will be helpful in one's continuing analysis of his teaching behavior.

He went on to list a series of examples of studies to show that the relationship of teacher behavior to student learning is important. All the examples dealt with the substance of education, that is, what goes on in the classroom between teacher and pupil as well as among pupils. He contrasted these studies with others that deal with innovations of "form." They show either little, or no, impact on learning.

In summary, Delmo stated that changes in teacher behavior can create improvement in academic learning, self-concept, creativity and other areas of learning. In order for these improvements to take place:

1. The teacher must want to examine his own behaviors and their impact on student learning.

2. He must have the opportunity to carry out self-examination and obtain knowledge of techniques for doing so.

3. He will have to identify and/or clarify and specify what he wants to accomplish (goals) with students.

4. He needs time and knowledge of skills necessary for self-evaluation based on self-examination and identification of goals.

5. He needs time and assistance in developing new behaviors which will lead to improved attainment of goals and, from time to time, in developing new goals.

TRAINING GROUP ASSIGNMENTS

Richard Merrick assigned each of the Leader Training Conference participants to a group. A training staff member was assigned to each group. The groups were:

Group A:	Sam Flam, Program Associate
	Don Chalker
	Peter Marra
	Jacob Robinson
	Tamyra Snider
Group B	Norman McRae, Leader Training Coordinator
	James Burress
	Paul Keene
	Donald Urquhart
Group C	Fred Ioanou, Program Associate
	Carl Pelini
	James Schmidt
	Charlotte Stevens
	Robert Taylor

The use of the training groups in the conference was explained. After coffee, each group was asked to convene and discuss the presentations of the morning.

TRAINING GROUP SESSIONS

Each group met in separate rooms, but they all participated in the same activities. First, an overview of what was going to be happening in the two week training program was discussed. Secondly, questions were raised by the participants about the conference and about the program. Finally, the groups discussed how the MOREL program could be applied in their settings.

Participants shared information with each other about their experiences, backgrounds and job descriptions. They expressed the feeling that the MOREL program would be helpful in their school districts. The conclusions in the groups were that the program was applicable to each of the participants (at least in part) and that other staff would probably be trained later.

There was discussion of the role of the in-service leader. Several participants raised questions as to whether or not an administrator's role was in conflict with an in-service leader's role.

OBSERVATIONS BY STUART RANKIN

Stuart Rankin, Executive Director of MOREL, talked to the conferees about the development process and the teacher training program developed by MOREL.

According to Stuart, educational development is that change function which produces tested alternatives to educational practice. As such, it is user-oriented rather than knowledge-oriented and requires the design-trial-evaluation-redesign cycle as an operating mode.

He pointed out that the MOREL program provides the basic philosophical conditions that must underly any change endeavor. They are conflict, support, alternatives, freedom, feedback and purpose. The MOREL teacher training program has heavy emphasis on feedback.

Stuart emphasized that the MOREL teacher training program is the opposite of "teacher proof." It places confidence in the ability of the teacher to improve his or her own behavior as a teacher. It is based on the establishment of teaching goals and interpretation of feedback as to how well those goals are being achieved.

In concluding his remarks, Stuart promised the conference participants that MOREL would provide follow-up to them as they tried to implement the teacher training program back in their own districts.

TRAINING GROUP SESSIONS

Each group began by discussing the role of the In-Service Education Leader and the functions that he performs. Participants were given a copy of the MOREL booklet In-Service Education Leader--Analyst Counselor + Teacher + Mediator of Research + Program Administrator. The tasks performed implementing the program were examined. It was pointed out that the tasks are not really separate but are overlapping.

Using the role of the in-service leader, the participants modeled the MOREL program. Various means for gathering data about the classroom were identified--tape recordings, video tapes, trained observer, IA coding, student feedback, etc. The types of information that could be gathered using each of the listed feedback devices were identified. A problem was identified in a hypothetical case as if the teacher had found out what was happening in the class using one of the data gathering techniques. Possible reasons for the problem were identified. Participants focused on one possible means of correcting the situation. They the planned ways of improving the teaching behavior.

Group discussion was used to develop a strategy for helping a teacher go through the processes described above. Tasks to be performed were identified. Skills necessary to perform the tasks were identified. Conference participants were asked to identify their concerns about skills that should be emphasized in the conference.

GENERAL SESSIONS

The total conference came together to hear what had been discussed in the small groups. Each group had a spokesman who reported to the total community. Richard Merrick guided the reports and discussion to determine if there were concerns that should be given priority in revising the agenda for the conference.

Following the first general session, the training staff met to examine the recommendations from the groups. An agenda for the conference was prepared.

After supper, the second general session was called. Conference participants were given a copy of the agenda for the two week conference. After a short discussion, an orientation to Detroit was provided, and the conference was adjourned for the evening.

TUESDAY, DECEMBER 3

GENERAL SESSION

The session was called to order by Norman McRae. An overview of the day's activities was given. Fred Ioanou read the "resumes" that had been prepared the day before. The speaker for the first session was introduced.

INTRODUCTION OF INTERACTION ANALYSIS

Lilburn Hoehn introduced interaction analysis to the total group of conference participants. The purposes were to lay the groundwork for coder training, increase knowledge and understanding of the categories, and give some idea of the power of interaction analysis as a feedback technique.

Lilburn began by discussin some of the general research findings from interaction analysis. The focus was on research related to the direct vs. indirect teacher, dependence-independence in teaching, and the social-emotional climate of teaching. Sources of further information were indicated.

Next, there was a review of the types of data which can be gathered through the use of interaction analysis. Some of the items mentioned were: (1) relationship of teacher talk to student talk; (2) teachers' use of praise and the use of students' ideas; (3) teacher's use of questioning skills; (4) nature of freedom that the students exhibit in the ways they respond; and (5) the teacher's use of directions and criticism to assert his authority. Conference participants were also informed of the approximate percentages of time which each category is used in normal classrooms.

The remainder of the session was spent in defining each category in Flander's system of interaction analysis, role playing of the categories, time for learning the categories, and additional role playing opportunities to define the categories more clearly.

TRAINING GROUP SESSIONS

The participants broke into the small groups designated the day befcre. The groups concerned themselves with the following:

1. How objective are the categories?
2. How is it possible to differentiate between the categories in a classroom?
3. Do the categories apply to all teachers in all settings? If not, how can they be modified?

Participants were given the opportunity to code from training tapes produced by Flanders. Discussion followed disagreements in coding.

VIDEO TAPE AS A TOOL FOR TEACHER CONFRONTATION OF BEHAVIOR

Richard Merrick discussed the various ways that a video tape can be used with teachers to look at behavior in the classroom. He talked about the ways that teachers react to seeing themselves in action. Case studies were used to demonstrate the points being made.

Video tapes of actual classrooms were shown. The procedures used with the teachers on tape were discussed with the group and questions were answered.

Richard stressed the importance of confidentiality. He explained how he and other in-service leaders went about establishing a climate that was conducive for the use of analysis techniques.

TRAINING GROUP SESSIONS

Group A

Sam Flam introduced the use of Micro Teaching as an improvement strategy in the MOREL program. He then provided the participants in the group with an overview of their activities for the day.

The participants planned for a micro teach experience. Skills were selected. A lesson plan was prepared. Sam stressed that subject matter content was not important for the exercise; attention is focused on a specific skill.

The group went to Spain Jr. High. Each participant conducted a micro teach, was critiqued, and some had an opportunity to re-teach. There were some equipment failures that reduced the amount of time available for the clinic.

Group B

Norman McRae provided the members of the group with several materials: code sheets, codes, working matrix, and final matrix forms.

The participants constructed a matrix from the given information. The matrix was then interpreted by the group members working together. Norm explained the various parts of the matrix and answered questions raised by the participants who were following the guidelines provided in The Role of the Teacher in the Classroom.

At the end of the session, the matrix was interpreted and the conference participants made some hypotheses about the teaching behavior of the teacher involved based upon the data provided by the matrix.

Group C

Fred Ioanou began his group session with a discussion of coding problems raised by members of the group. It was suggested that some of the questions could best be answered after an understanding of how the codes are used.

The group decided to change the plan for the session. Fred dictated a series of codes to the participants. The codes were recorded on tally sheets. The codes were transferred to a working matrix and then to a final matrix. All computations were made.

Members of the group were asked to find out as much as they could about the teacher who was represented by the date. Questions were asked to get the group to look at the various parts of the matrix. Lilburn Hoehn joined the group in drawing inferences from the data. At the end of the session, a complete matrix interpretation was made by the group working in concert. It was pointed out that the group needed to look into The Role of the Teacher in the Classroom to review the procedures followed in matrix interpretation and to find the names for the sections of the matrix that they had already interpreted.

VIDEO TAPE EQUIPMENT

John Schneider made a presentation to the total conference on the care and use of video tape equipment. He explained how the equipment worked and what to expect in the field. He demonstrated how to clean the equipment and suggested that for major work it was advisable to have a trained technician in the district. Minor malfunctions were described and a simple check-out procedure was demonstrated.

Some uses of video tape equipment were explained. Placement of equipment for various functions was discussed. A chart was given to the conference participants to show how to set up for a micro-teach.

Various pieces of equipment were described. In addition to the Ampex 5000 which is used by MOREL, other models were described. Specifications and price lists were passed out to the participants.

Questions from the audience were sought and answered.

Hand-on practice with the equipment was limited by the late hour. Each person did have a chance to see how the outfit operated and get answers from a trained technicain. Arrangements were made to allow practice time with a VTR in the clinics to be held at the London Inn.

WEDNESDAY, DECEMBER 4

BEHAVIORAL OBJECTIVES

Dave Sandler began his presentation by stating his behavioral objectives for the session: "Given a list of 15 questions in the writing of behaviroal objectives, the learner will be able to answer no less than 13 of the questions correctly at the conclusion of this presentation."

To aid him in his presentation, Dave used a series of transparancies to demonstrate each of the points he made. He provided each concerence participant with a xerox copy of each of the transparancies.

Dave's presentation included:

1. advantages of behavioral objectives
2. word interpretations
3. definition of important terms
4. construction of behavioral objectives
5. terminal behavior
6. conditions
7. criterion test
8. analysis of a behavioral objective in terms of conditions, terminal behavior, and criterion test.
9. important aspects of behavioral objectives
10. discussion of behavioral objectives by the group

Four points were brought out during the presentation by conference participants: 1. it is possible to individualize objectives within a particular class in order to individualize instruction; 2. behavioral objectives can be used as a vehicle for student-teacher planning; 3. behavioral objectives can be used to place students at appropriate levels in the curriculum by using one form of the criterion test as a pre-test; and 4. unit planning using behavioral objectives can make the preparation of lesson plans easier.

TRAINING GROUP SESSIONS

Each group discussed behavioral objectives within the framework of the total program for teacher improvement. Emphasis was given to improvement strategies.

GROUP A

Each group member was given raw data which represented the codes recorded in an unidentified classroom. Instructions were given on how the data is transferred to a matrix. The Role of the Teacher in the Classroom was used as a model for the construction of a matrix. Participants decided that the book would be a useful tool when they returned to their locales.

Completed matrices were compared. Participants were then asked to list conclusions which could be made about the teaching behavior that was reflected in the data. Each hypothesis was supported by the data on the matrix. Participants found that many of their original inferences went beyond the data.

Participants were then given the opportunity to follow the model provided in the Flanders book.

GROUP B

Micro-teaching was discussed as a powerful tool in an improvement strategy. He then provided the participants with an overview of what they could expect in the Micro-Teach Clinic later in the day.

Participants planned for their micro-teaches and went to Spain Jr. High. Each person did a teach, was critiqued, and planned for ways of improving the skill practiced.

GROUP C

The largest portion of the time was spent discussing the use of feedback instruments as an integral part of the NOREL program. Emphasis was placed on student feedback. The instrument developed by Bryan at Western Michigan University was introduced and copies were given to each group member. Research studies were discussed that showed the importance of student feedback.

Three booklets were introduced and discussed: Diagnosing Classroom Learning Environments, Problem Solving to Improve Classroom Learning, and Role Playing Methods in the Classroom. It was noted that the feedback instruments in the first booklet could effectively be used in conjunction with interaction analysis and observation as used in the MORE. program.

Practice coding from training taped completed the session.

CLINIC

A clinic was opened for conference participants to practice skills in the evening. Tape recorders, code sheets, and training tapes were provided. A staff member was available to help participants desiring assistance.

THURSDAY, DECEMBER 5

GENERAL SESSION

Norm McRae provided an overview of the day's activities and introduced the speaker for the large group session on Technical Skills of Teaching.

TECHNICAL SKILLS OF TEACHING

To aid in her presentation, Barbara Williams passed out two sets of materials: 1. eleven skill charts, and 2. six handouts on the skill of questioning.

Barbara identified the twelve skills used in the MOREL program and explained that they were taken from those originally developed by Dwight Allen. The skills are:

1. Questioning
2. Using Student Ideas
3. Praising and Encouraging Students
4. Establishing Set
5. Closure
6. Recognizing and Obtaining Attending Behavior
7. Encouraging and Controlling Student Participation
8. Providing Feedback to Students
9. Accepting Student Feeling
10. Establishing Appropriate Frames of Reference
11. Providing Reinforcement
12. Explaining and Clarifying Ideas

These skills are those that teache[illegible]t requested help with during the 1968 field trials. The above skil[illegible] not only defined in the MOREL list but the desired student behavi[illegible] and their observable student activities are included.

Barbara went on to establish the re[illegible]tionship between the skill package and the MOREL In-Service program. The package provides a means for discussing a naturalistic observation with a teacher; provide alternatives for eliciting desired student behaviors, and provides guides for the teacher to use in improving his own teaching behaviors. The technical skills, along with the subscripted category systems can also be used as a basis for determining whether technique practice has been successful.

She pointed out that the skills are not offered to a teacher as the way to more successful teaching, but they are offered as part of the larger process of looking at one's own behavior, assessing that behavior, and if the evidence warrants it, improving that behavior.

Barbara briefly discussed how the Flanders system of coding could be subscripted to measure particular aspects of teaching behavior in order to assess an improvement in teaching techniques.

TRAINING GROUPS

Following the presentation on Teaching Skills, discussion groups were established. Two members of Group B joined the members of Group A, and one member joined Group C.

The groups reviewed the analysis and improvement strategy of the MOREL program with emphasis on how the Technical Skills of Teaching could be used to implement the program. Teaching skills were viewed as a very important part of the improvement strategy. It was suggested that the in-service leader could be very helpful to the classroom teacher by helping him look at his effectiveness in terms of the specific teaching skills employed.

Group C used a video tape of a teacher doing a micro-teach of a skill. After viewing the tape, the group members role played a critique. Following the critique, the re-teach was viewed. Discussion in the group focused on 1) ways that a skill to be practiced are chosen, 2) reasons for clearly defined goals in a micro-teach, 3) side effects of micro-teach experiences (in the example used, the teacher was forced to listen to inner city students that he previously had some preconceptions about), and 4) means of using the skills package in the locales represented by members of the group.

The enlarged Group A discussed the use of data on student behavior as a means of identifying teaching skills which should be improved. The use of student behavior as a criterion test for the effectiveness of a particular teaching skill was emphasized. The group cited how this use could be utilized in both the classroom and a micro-teach. The use of teaching skills packages as a shopping list for helping teachers determine what improvement he wants to make was explored. Participants felt that this would be a good way of getting a teacher started on an improvement strategy.

TRAINING GROUPS

Groups A and B combined

Training tapes were used to practice coding. Sessions were coded and checked. Ground rules were discussed and questions answered.

Concern about the proposed Mini Conference were discussed. Sam allowed the group to spend some time discussing their plans for the program.

Dennis Bryan made a presentation to the combined groups on the use of student feedback. He explained the rationale and assumptions behind the use of student feedback. Research findings on use of student feedback were shared with the participants:

A. The Use of Students' Written Feedback in Changing the Behavior of Beginning Secondary School Teachers.
Kevin Rayn 1966

B. The Relative Effectiveness of Infor[illegible]ional Feedback About Supervisory and Student React[illegible] with Beginning and Experienced Vocational Teachers.
Oliver 1967

C. Equilibrium Theory and Behavior Change: An Experiment in Feedback from Pupils to Teachers.
Gage & Runkel 1960

D. Some Observations Concerning Written Student Reactions High School Teachers. Roy Bryan 1968

Dennis went on to discuss the criteria for the construction and use of student feedback. A good deal of discussion focused on how the MOREL program uses student feedback. Bryan's instrument used at Western Michigan University and the techniques described in Diagnosing Classroom Learning Environments were introduced.

The participants were guided through the process of tabulating and interpreting the results from a sample set of completed student opinion questionnaires.

GROUP C

Dennis Bryan worked informally with the group members. He showed them how to administer, tabulate, and interpret Bryan's Student Opinion Questionnaire. A sample set of about eight questionnares was used. Participants tallied the results, graphed the results, and discussed how they may be interpreted and used with teachers.

Group members planned for their micro-teach experience. Skills were settled upon and lesson plans made. The activity at Spain Jr. High School consisted of a teach, critique, and re-teach experience.

CLINIC

Conference participants took advantage of the evening clinic to practice skills that they felt they needed to work on. Training tapes were available for coding practice. Materials for constructing and interpreting matrices were available. Several people parcticed using the video tape recorder.

FRIDAY, DECEMBER 6

GENERAL SESSION

Two groups were established arbitrarily. One group listened to and coded a ten minute session. The second group coded an overlapping ten minute session. Accuracy was checked within each group. Matrices were constructed and interpreted. The Role of the Teacher in the Classroom was used by each group so that the form of the interpretation would be the same. The two groups had different pictures -- in one case the "teacher" used a large amount of talk; in the other case the "teacher" used very little talk. Both groups used the same tape in different samples. It was pointed out that global generalizations about a teacher's behavior could not be made from isolated data with any great degree of confidence.

OVERVIEW OF STRATEGIES FOR ANALYSIS AND IMPROVEMENT

Fred Ioanou met with the total group of conference participants. The session was divided into two parts.

In the first part, Fred utilized a number of charts to demonstrate the conceptual frame of the MOREL program and the component parts of the strategies employed. The presentation was all lecture. The charts were too small to be visible. The material had all been covered before in each group. However, the plane of reference used was new to the participants.

In the second portion of the session, Fred moved into the center of the circle and invited analysis of the presentation. At first the participants were hesitant to criticize. Probing questions were asked by Dick Merrick and Sam Flam to get the group involved. The conference participants listed ways that the presentation could have been improved. "Teacher" behaviors that got in the way of an effective and/or meaningful learning experience for the "students" were isloated and identified.

TRAINING GROUP SESSIONS

Each of the groups dealt with concerns raised by participants that were related to getting the program operational in their respective locales. Strategies for implementation were developed in each group. A typical example follows:

> "The main points brought out were that we must first motivate and interest the teachers; have a general session in which the MOREL program is explained in brief; set up a field action unit of teachers interested in trying these ideas and approaches; and then getting into the details of each of the component parts of the program."
>
> Bob Taylor's notes

SATURDAY, DECEMBER 7

CLINIC

A large clinic was established at the MOREL offices. Video tape recorders were set up for those who wanted practice in their use. Several stations were available to practice coding. The library was utilized by some. The training staff was available to meet with participants who had questions about the program.

MONDAY , DECEMBER 9

DATA GATHERING IN SCHOOLS

Conference participants reported to assigned schools. Each had an opportunity to code in a classroom, audio tape a classroom, talk to the teacher, naturalistically observe, and gather student feedback. In addition, some people had an opportunity to use video tape equipment in the classroom.

There were some deviations due to conditions in the schools, but the basic strategy was:

> Interns are paired in teams. Four interns to a school. Observations are made during two time blocks. During the first block of time, two teachers are observed. Two more teachers are observed in the second time slot. Interns go into a room. One functions as a coder; the other functions as the in-service leader. Interns change partners for the second round of observations. They also change roles--coder becomes leader. Leader does natura[illegible]tic observation and talks to the teacher.

TRAINING GROUP SESSIONS

Conference participants returned to the London Inn and worked in their groups. Each group did the same thing.

Each participant took the raw IA data that he collected as a coder and plotted it on a matrix. Data was translated to a worksheet and then to a completed matrix. All computations were made. Matrices were checked for accuracy. Discussion focused on coding in a live classroom and matrix interpretation.

Data gathered using student feedback instruments was tabulated and plotted. Participants cross-checked each other.

Each participant prepared a diagnostic profile on the teacher he observed as in-service leader. The information included an interpretation of the matrix, an interpretation of the student feedback, observations made in the classroom, and information gained in talking to the teacher at the school.

CLINIC

In addition to the activities of previous clinics, staff members were available to help participants plan for providing feedback to the teacher.

TUESDAY, DECMEBER 10

ANALYST AND COUNSELING FUNCTIONS

The format of the session was basically a lecture by Al Bernstein on evaluation and measurement principles followed by a question and answer period. conference participants were encouraged to interrupt the lecture with questions and discussion.

Al used the IQ metric as the vehicle to discuss errors of measurement, test reliability, the meaning of a confidence interval. This led to a discussion of conditions which must apply in order for IA data to be generalizable for the teacher under observation or from teacher to teacher. The importance of properly defining the objectives of a given class session, of keeping track of changes in time use categories when coding, and finding reasonable matches in these in order to compare the matrices from different class sessions was discussed.

After answering appropriate questions raised by the audience, Al moved to a discussion of the nature of objectivity and how we gather data for objectivity assessments in IA coding. A brief discussion of the theory in the monograph followed. In addition, a promise was made to teach the members how to do an objectivity check the following day when a check of participant coding was scheduled.

Four matrices, posted from four code sheets of the same audio tape and coded by four different people, were given to the participants who were urged to interpret these and see if variations in interpretation were to be found. Copies of MOREL Monograph 1 and MOREL Monograph 2 were distributed. In addition, participants were given a sample objectivity problem worked out in a two column format -- theory and solution.

TRAINING GROUP SESSIONS

Participants in each of the groups completed their preparations for providing feedback on the collected data to the teachers they observed. Discussion of the limitations of one observation focused on the conclusions drawn in the diagnostic profiles. Participants helped each other with concerns about accuracy of data or method of presentation. In some cases role-playing was used with one participant playing the teacher and another the in-service leader. The rest of the group, using the fishbowl mode, critiqued the performance.

FEEDBACK TO TEACHERS AT SCHOOLS

The conference participants went to the schools and met with the teachers after school hours were over. Each session included only the in-service leader and the teacher. Each session was taped.

The in-service leader helped the teacher understand the data that was collected. The teacher was shown how to read the matrix. Student feedback was analysed with the teacher. The teacher was encouraged to select some aspect of teaching behavior to be practiced in a micro-teach.

CRITIQUES OF FEEDBACK SESSIONS

Each conference participant was critiqued individually in the evening. Some could not be done the first evening and were picked up the following day.

A staff member met with the participant and talked about the experience with him or her. The tape was listened to. Attention was focused on the data presented to see if the participant had the skills sufficiently mastered from previous session. Then attention focused on how the participant as an in-service leader worked with the teacher. The in-service leader was helped to look into his behavior and analyze it. Those areas needing improvement were identified and plans were made for change.

CLINIC

The clinic was expanded to include opportunities for people to listen to and critique each other's feedback sessions. Video tape equipment was also available so that people could prepare for the micro-teach clinic to be held the next day. Training tapes were used (both audio and video) by persons wishing to improve their coding.

WEDNESDAY, DECEMBER 11

GENERAL SESSION

The activities of the day were described. Participants were told about the reliability checks on their IA coding that would be conducted first. They were divided into two groups for the micro-teach clinics scheduled for Wednesday and Thursday. Group 1 was made up of the people in Group C and two members from Group B. Group 2 consisted of Group A and the remaining person from Group B.

CODING TEST

Al Bernstein familiarized the participants with the bell signal timing tape for interaction analysis coding. They then coded two training tape sessions of about eight minutes each.

The technique of marking out bell signal triads was explained. The participants worked in three groups, two of 4 members and one of 3. They found agreements compared to total comparisons for the possible pairings within the group and calculated percents of agreement a, b, and c as defined in Monograph 1. They estimated accuracy by the square root method for the two coder case, and calculated some estimates using the equations for the three coder case.

There was little total group instruction. There was a great deal of interaction between MOREL staff members and the members of the groups.

CONDITIONS:

Participants were placed in groups that cut across their training group lines. Scores would be expected to be higher if the comparisons were made between people who had trained together and had experience in cross-checking their coding with each other.

A bell tone was used for the first time with the conferees. They were asked to code from a training tape. A bell tone was sounded every twelve seconds. At the sound of the bell, the conference participants were required to draw a slash mark through the last code recorded. That the first use of the bell was distracting was evidenced by the fact that, within a group of four people, there was as much as a four slash mark discrepancy.

Participants were learning how to use the formula for figuring objectivity in the same session that they were being checked.

RESULTS:

Each participant coded with an accuracy of better than 75%.

GROUP 1

The participants prepared themselves for the micro-teach clinic they were going to conduct later in the afternoon.

A total group discussion on micro-teaching was begun. Concerns about micro-teaching were soon met, and it became evident that individual participants had specific concerns of their own to work on. The session turned into a clinic.

The participants went to Sapin Jr. High School and helped set up the equipment for the micro-teach clinic. They greeted their teachers and assumed the roles of in-service leaders. They talked with the teachers and helped them get ready for their first experience with micro-teaching. They had the teacher state his objective for the session. They arranged for the kids to come in. They ran the VTR during the micro-teach. They released the kids and viewed the tape with the teacher. The critique of the session was taped. They assisted the teacher in planning for a re-teach and conducted one with a different set of kids.

In the evening, the tapes of the critiques were reviewed individually with a staff member.

GROUP 2

The participants met at the MOREL offices with Lilburn Hoehn. Each participant was asked to create a realistic classroom teaching problem that grew out of his own experience or in observations of other teachers. When the problems has been formulated, they were shared with the total group. A discussion followed concerned with whether or not problems were the type that could be attacked through a classroom experiment or whether it was basically a research problem. The differences between the two were discussed and some trainees then redesigned the problem accordingly. Each participant then indicated the nature of research data he would search for to try to bring research findings to bear on the problem. Group members exchanged problems and went to the MOREL library to search for research data which related to the problem.

Following the data search, conference participants returned to the training facility and began discussing any data they had located as well as problems in finding research data to apply to real classroom problems. Each problem was discussed with the view toward designing a classroom experiment to solve the problem.

CLINIC

A clinic was available in the evening for those desiring more work.

THURSDAY, DECEMBER 12

GENERAL SESSION

Feedback was provided to the conference community on the activities of the previous day. Some problems in logistics at Spain Jr. High were caused by the fact that kids are in class until fifteen minutes prior to the micro-teach clinic. Tighter planning would have to be used by the people in Group 2.

The conference was divided into the two groups. Lilburn Hoehn took Group 1 with him and Group 2 remained in the Abbey Room.

GROUP 1

Just as Group 2 had done the day before, the people in Group 1 looked at the mediator of research role played by the in-service leader. The major change was that rather than have the participants search for research data in the library, the group attempted to bring research findings from their own knowledge to bear on the problems identified.

GROUP 2

The people in Group 2 parepared for the micro-teach clinic they were to conduct that afternoon at Spain. Discussion focused on improvement strategies, planning for a micro-teach, setting up for a micro-teach, preparing a teacher for a micro-teach, conduct a micro-teach, critique of a micro teach, preparation for a re-teach, and the care and use of equipment.

The clinic started later which allowed more time for setting up all of the equipment. Teachers were greeted and taken to a lounge area prior to the micro-teach experience. They had time to relax and plan. One teacher failed to show up. San Flan role played a teacher and conducted a micro-teach and was critiqued by a conferee.

CLINIC AND INDIVIDUAL SESSIONS

A clinic was again available for those wanting more practice.

Individual session with conference participants on their performance in the micro-teach situation were conducted. The last conference ended at 3:00 A.M.

FRIDAY, DECEMBER 13

GENERAL SESSION

Participants expressed some concern about involving teachers in self examination in a way that minimizes threat. Norm McRae demonstrated the use of simulation and games as a mode for teacher involvement.

Post Conference Evaluation

Each participant was given a post-conference evaluation questionnaire to answer. Time was provided for the conferees to answer the questions. It was stressed that MOREL was going to use the feedback provided to modify and refine the Leader Training Program.

GENERAL SESSION

The final session provided a forum for the participants to discuss concerns and to make recommendations.

Concerns were focused on implementation problems that varied from school district to school district. Participants shared ideas with each other. Common problems dealt with were: money, time, number of teachers, and motivation of teachers.

Participants felt that continuing communication was important. Conference recommendations were:

1. Conference materials should be prepared and sent to each participant and to the district he represents.

2. MOREL staff should be available for consultation by phone or letter.

3. MOREL staff should visit each of the conference participants at their districts.

It was noted that conference participants and their respective districts will have latitude in the exact form of implementation of the MOREL teacher training program. The need for a newsletter or some other means of exchanging information was expressed by the entire conference.

In addition, it was agreed that interested conferees will send "position papers" to MOREL as soon as possible. These reports will represent informal thoughts, suggestions, observations, and possible solutions to problems brought up at the conference.

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GENERAL INFORMATION ON MOREL

The Michigan-Ohio Regional Educational Laboratory -- MOREL--- is an independent, non-profit corporation established under Title IV of the Elementary and Secondary Education Act of 1965. MOREL's purpose is to improve educational practice through research, demonstration, and assistance in adopting new techniques.

Organized in June, 1966, MOREL is governed by an 18-member board of directors elected from among the 54 corporate members, who represent elementary and secondary schools, higher education, and the lay community in the two-state region. The headquarters office is centrally located in Detroit, and the staff is organized under five divisions -- Field Operations, Evaluation and Research, Communications, Administration and Planning and Development.

Although concentrating its efforts in the states of Ohio and Michigan, MOREL is part of a network of 20 regional laboratories established under Title IV to link educational research with teaching practice, with a focus on high priority educational problems in such areas as curriculum materials, special student populations, teacher education, instructional technology, or school community organization.

MOREL is not a "laboratory" in the usual sense of a physical grouping of facilities for research and experiment, but represents an organization of efforts and talents throughout the region. It is not the purpose of MOREL to replace or compete with existing programs. Rather, the Laboratory is concerned with educational development programs which require a new combination of resources.

MOREL'S PROGRAM

The primary objectives of the Laboratory are: (1) to develop an in-service strategy for improving teaching effectiveness; (2) to develop an information service system for the region; and (3) to develop new relationships among education agencies and institutions in Michigan and Ohio.

IMPROVING TEACHING EFFECTIVENESS

MOREL's initial efforts are concentrated on improving teaching effectiveness through changes in teaching behavior.

The essence of school-based education lies in what the learner sees, hears, feels, and does. These behaviors are snaped in the classroom, through teaching, and although many factors can be associated with pupil behavior, the single most important controllable variable is the behavior of the teacher.

Teachers, like most human beings, usually do not choose to investigate their own behavior. One of MOREL's goals is to create a professional sense of inquiry among teachers in which one of the objects of inquiry is the individual's own behavior in the classroom.

The development program is designed to determine: (1) what changes in the pupil result from the teacher-pupil interaction; (2) which of these are desirable changes (i.e., represent effective teaching); and what teaching behaviors were major factors in producing the desirable changes. This represents a self-evaluation process on the part of the individual teacher-MOREL is not an agency for evaluating teacher performance on an individual basis.

THE INSERVICE PROGRAM

The major effort toward the goal of improving teaching effectiveness is focused on the development of an inservice education program. The program is designed to facilitate teachers' willingness and ability to analyze and develop means of improving their classroom teaching behavior. Other techniques are used for helping teachers identify some teaching problems, for practicing ways of attacking and developing solutions to those problems and for determining if such trial solutions result in improved classroom instruction.

It is anticipated that teachers who develop positive attitudes toward self-analysis and who learn various methods of analyzing their teaching as well as ways to build improvement programs will continue to improve their teaching over a long period of time. Such a process is described as self-renewal and is the second major goal of the inservice education program. MOREL seeks to not only improve teaching effectiveness but also to help teachers learn models of inquiry that enable them to continue to improve.

The present training design, which has been undergoing development over the past few months consists of a number of activities to assist teachers in improving. Among the activities included in the design are: (1) learning to write objectives in terms of behavioral outcomes; (2) studying the concepts of self-renewal; (3) learning to gather and use feedback from students, peers and community; (4) learning to use videotape equipment; (5) learning the meaning of systems of classroom observation and how to use one system; (6) using micro-teaching as a practice and feedback system; (7) training in the use of some technical skills of teaching; (8) building a model of inquiry into one's own teaching; and (9) evaluating change in relation to improved student learning.

FIELD ACTION UNITS

The inservice education program has been and continues to be developed by working with teachers in their own setting. MOREL supports improvement teams of four to nine teachers in a building. These teams are called Field Action Units and each is led by an inservice education specialist from the MOREL staff. The mode of work with the teachers varies from activities with the total group to work with one individual. Even though the MOREL staff member is the facilitator of the improvement program, the Field Action Units are truly teams working together to help each individual do a better job of educating students.

Although MOREL welcomes inquiries, it is obviously impossible to organize FAU's in each of the region's 9,000 elementary and secondary schools during this development period. Participation is entirely voluntary on the part of teachers, schools, and districts, and most of the cost during this development period is borne by the Laboratory. Requests for information should be made at the district level.

THE INFORMATION CENTER

REFERRAL LIBRARY

While MOREL does not maintain extensive source materials, the Laboratory's Information Center is equipped with a comprehensive collection of references and searching tools necessary to identify and locate information. An answer to a request for information on a specific topic might be in the form of a photocopy of an existing bibliography, references to specific publications, or the location of an agency specializing in the topic.

In addition to service to MOREL staff and projects, the Library is available to agencies throughout the region. Inquiry forms are available from MOREL upon request, or individuals may visit the Library in person. (the latter is recommended when the area of inquiry is extremely broad or when exploratory study is involved.)

RESOURCE BANK

The Laboratory's Resource Bank is a vehicle for the identification and classification of personnel and institutional resources in the region, and for making these resources known to the educational community upon request. This service is available to all regional educators. Typically, a resource inquiry will be answered with information about recognized experts in the topic area, or relevant data on projects or agencies specializing in the topic, located in the geographic area specified by the inquirer.

Please contact the MOREL Information Center for details concerning utilization of the Resource Bank.

BUILDING NEW RELATIONSHIPS

Although MOREL is not a central coordinating agency, one of its purposes is to build new relationships among institutions in the region. (Here used in its broadest sense, "institution" includes state departments of education and federal agencies, public and private universities and schools, professional associations and research organizations.)

During 1967 MOREL helped initiate a cooperative planning endeavor between the two largest institutions in Ohio - The Cleveland PUblic Schools system and the Ohio State University, assisted in planning a conference for Title III Project staff members; and contributed leadership to the Michigan Cooperative Curriculum Program.

MOREL has aided in the development of the Twin Valley Living-Learning Center in Coldwater, Michigan - a cooperative pre-service training unit involving a local school system, an intermediate school district, a regional state university, and three liberal arts colleges.

TEACHER BEHAVIOR AND STUDENT LEARNING

Why should teachers want to examine their teaching behavior? How will this contribute to improved teaching and increased learning? Let's look to what a few selected studies have shown to date in answering these questions.

There is a relationship between certain patterns of teaching behavior and what students learn. Research evidence isn't available yet to enable prediction that a particular set of practices will likely produce a given result with students. However, some generally positive relationships can be described which are useful for the teachers interested in self-improvement. There are also some teacher behaviors which are related to negative effects on student learning, often in ways unintended by, unanticipated by, or unknown to the teacher.

Another complicating factor in looking at teacher impact on students is that a teacher with the same (consistent) behavior may produce different results with different types of students. Certain teachers seem to work well with one age group or grade level but not others, or with certain subject fields, or with boys, or with inner city children, or with retarded children etc. The important point is that there is no one "package" that can be wrapped up and labeled "good teacher." So the purposes of MOREL in examining teacher behaviors are not to find "ideal" teacher behaviors but to help teachers to: (1) become more aware of what they actually do as they work with students; (2) discover for themselves the effects of their behavior on student learning; (3) find ways to develop some new approaches, new behaviors, which will be more effective in attaining their own goals; (4) and learn the use of various techniques which will be helpful in one's continuing analysis of his teaching behavior.

In this process of self-examination, self-evaluation and self-directed change it is essential to go beyond superficial evidence and global impressions about classroom activities. For example, the major criteria commonly used to evaluate teachers or that teachers use to evaluate themselves can be described as follows:

(1) "The classroom is orderly and the children seem attentive and interested".

(2) "The teacher had a lesson plan and followed it".

(3) "The teacher knows his subject matter well".

Many, if not most, teachers, supervisors and administrators are content if there is an absence of discipline problems and parental complaints, if teachers conform in grooming and general behavior to community norms and if students, parents and other teachers feel he has sufficient knowledge of the subject fields he is supposed to teach. As has been indicated previously these kinds of data are inadequate, by themselves, as the basis for a program of professional growth for any teacher. What kinds of data are needed then? The following descriptions touch on a few selected behaviors which are either not generally used or not generally known in analyzing the improvement of teaching.

TEACHER EXPECTATIONS

There is evidence that what a teacher expects to happen with individual students or with a class tends to come true. Rosenthal and Jacobson (1) reported a study in which teachers were told to expect gains in I.Q. from specified children by psychologists who had selected the students at random, that is, had figuratively "picked their names out of a hat". Not only did the teachers perceive the children as growing more intellectually, the students actually did make significant spurts in I.Q. measures! An interesting contrast is that many other children had also gained in I.Q. during the year but"...the more they gained, the less favorably they were rated" (1). In sum teachers were told certain students would gain in I.Q. they believed it would happen, they perceived it as happening and it did happen. The teachers were pleased. Other students were not expected to show an increase in I.Q. but they did anyway and teachers found their behavior undesirable (unexpected?) After examination of possible causes, the authors conclude that"...the explanation we are seeking seems to be in a subtler feature of the interaction of the teacher and her pupils. Her tone of voice, facial expression, touch and posture may be the means by which - probably quite unwittingly - she communicates her expectations to the pupils. Such communication might help the child by changing his concept of himself, his anticipation of his own behavior, his motivation or his cognitive skills. This is an area in which further research is needed".

Does this research help explain why children from the inner city do less well academically as a group than students in other locations? Expectations are often different and usually lower for such students. However, the findings may have application to all teachers and all students. Whatever the case, teacher behavior and student learning do seem to be related to teacher expectations. One question for each teacher to ask himself is what he really expects to happen with each student and each class he faces. Does he know? If not, does he know how to find out? Does he know what effect his expectations are having on his students?

VERBAL INTERACTION

The work of Ned Flanders and others demonstrate a relationship between certain patterns of "teacher talk" and student learning. This is treated in a detailed fashion in other publications (2) but severl generalizations might be useful to illustrate this aspect of teacher behavior.

Teachers who interact verbally with students in an "indirect" manner tend to have classrooms in which"...students learned more and possessed more constructive and independent attitudes..." than in "direct" classrooms

Also"...the most direct teachers had more discipline problems..." and "students more often tended to question or even resist the directions given by the most direct teachers".

In these studies, "direct" teachers are those whose statements tend to restrict freedom of participation. Indirect teachers were"...more alert to, concerned with, and made greater use of statements made by students. These teachers went beyond mere clarification and acknowledgement of student ideas; they skillfully integrated student ideas into the content discourse of classroom communication...".

Flanders has developed an interaction analysis model which is relatively simple to learn to use. It can be used by an outside observer and/or by the teacher himself viewing a video tape of his teaching. Teachers are usually surprised and enlightened when they view themselves on TV and/or see the results of an analysis of their verbal interaction with students using Flanders' observation chart. Teacher perception of his teaching act and behaviors while he is in the midst of it is often different than his perception of it as a spectator of a kinescope afterward, particularly if he employs some kind of rational model to examine it with.

CREATIVITY

Certain kinds of teacher behavior foster ingenuity, originality, independent thinking, spontaneity, use of imagination and other qualities associated with creativity. Torrance outlines principles of teacher behavior that foster creative growth in Rewarding Creative Behavior and other publications. In a series of experiments he was able to help teachers learn how to identify various kinds of creative expressions in both academic and non-academic areas and to use behaviors which would "reward" creative behavior.

His work and that of others in the field of creativity show that creativity is more often inhibited than fostered in most classrooms but that awareness of one's own behavior as a teacher as it affects creative expression can lead to improvement in creative output in the classroom with little additional inservice education. Again self-analysis and self-evaluation led to changes in teacher behavior which caused significant changes in student learning. If the teacher's goals include fostering creativity in any aspect of school work, the means for doing so are readily at hand.

OTHER DATA CONCERNING TEACHER BEHAVIOR AND AND STUDENT LEARNING

Various studies show unintended and, occasionally, unwanted effects on learning.

For example:

(1) If teachers are neurotic, they can generate their neurotic symptoms among students in early elementary school grades.

(2) Students' estimate of their self-worth, their self-esteem and general self concept can be changed by certain teacher behaviors. The self-concept is related to achievement in school and attitude toward teachers and toward learning.

(3) Assignment of marks is sometimes related to sex. Girls tend to be marked higher and shown more positive attitudes by teachers of both sexes. Is there a relationship between this factor and higher dropout rates from school for boys?

(4) Some studies show knowledge about individual students by teachers is significantly related to social class. Teachers know less about students from the "poorest" (socio-economic) families.

(5) When teacher behavior focuses on the causes of events and the causes of human behavior in treatment of subject matter, students learn as much or more subject matter and also learn more about themselves. Ojemann and others have taught specific classroom techniques for teachers to use in their "causal" or "preventive psychiatric" approach, which has produced significant results in learning and improved mental health.

WIDELY USED PRACTICES WHICH PRODUCE NO CHANGE IN LEARNING

The foregoing have illustrated that certain teacher behaviors can and do influence specific student learnings. There is also a kind of backhanded reinforcement for this generalization when we consider the results of research on grouping practices and class size.

The research on grouping practices shows no significant or consistent pattern of change in learning when ability grouping is used. Gifted students do not learn more in special classes nor do slow-learners, contrary to popular belief and general practice. There is no evidence of improved learning when class size is reduced either, which runs contrary to strong belief. However, the evidence is based on what does happen rather than what could happen because the studies also indicate that teacher behaviors were generally the same regardless of type of group or size of class. If teacher behavior is no different with a small group than with a large group should we realistically expect a differnce in learning? The same could be asked when students of widely varying ability are together in a classroom compared with a classroom where there is less difference in the range of abilities. There is no special magic that automatically accrues as a result of being in smaller group or with those of similar ability. The teacher must behave differently as a result of reduction in class size or class composition if changes in learning are to result.

SUMMARY

Changes in teacher behavior can create improvement in academic learning, self-concept, creativity and other areas of learning. In order for these improvements to take place:

(1) The teacher must want to examine his own behaviors and their impact on student learning.

(2) He must have the opportunity to carry out self-examination and obtain knowledge of techniques for doing so.

(3) He will have to identify and/or clarify and specify what he

wants to accomplish (goals) with students.

(4) He needs time and knowledge of skills necessary for self-evaluation based on self-examination and identification of goals.

(5) He needs time and assistance in developing new behaviors which will lead to improved attainment of goals and, from time to time, in developing new goals.

IN-SERVICE EDUCATION

LEADER

IN-SERVICE EDUCATION LEADER

ANALYST COUNSELOR • TEACHER • MEDIATOR OF RESEARCH • PROGRAM ADMINISTRATOR

IN-SERVICE LEADER

ANALYST/COUNSELOR FUNCTION

To use the analysis procedures and processes incorporated in the MOREL program.

To assist teachers to look into their teaching behavior and to recognize the consequence of that behavior.

TEACHER FUNCTION

To explain the analysis procedures and processes used in the MOREL program.

To provide the teachers with the skills for each analysis and improvement strategy.

MEDIATOR OF RESEARCH FUNCTION

To assist teachers in bridging the gap between the findings of research and the classroom setting.

PROGRAM ADMINISTRATOR FUNCTION

To develop a climate within -- school for acceptance of the in-service program.

To motivate teachers to make a commitment.

To make necessary logistic arrangements to properly support the program.

ANALYST - COUNSELOR FUNCTION

TO USE THE ANALYSIS PROCEDURES AND PROCESSES INCORPORATED IN THE MOREL PROGRAM

1. Gather base line data about teaching behavior of each teacher in the FAU.

2. Analyze base line data and prepare a diagnostic profile of each teacher.

3. Develop a plan for continuous classroom evaluation.

4. Modify evaluation instruments to apply specifically to the classroom situation to be evaluated.

5. Design evaluation instruments to be used with teachers and/or students.

6. Use self-designed instruments in the analysis of a teacher's behavior.

7. Use instruments to measure how well his objectives have been met in the various program components.

8. Gather and analyze feedback to measure effectiveness and impact of FAU meetings.

9. Gather and analyze data on effectiveness of guided group interaction.

10. Plan for modification of his behavior when feedback indicates that his behavior is not as effective as it should be.

11. Collect and analyze data about the school setting to find the factors that affect the effectivness of an in-service program.

12. Collect and analyze data about the community to find out if there are influences that might help to hinder an inservice program.

ANALYST - COUNSELOR FUNCTION

TO ASSIST TEACHERS TO LOOK INTO THEIR TEACHING BEHAVIOR AND ITS CONSEQUENCES

1. Counsel with teacher to provide interpretation, advice, and recommendations concerning aspects of teaching behavior.

2. Encourage teachers to collect feedback about their teaching behavior.

3. Help teacher identify the aspects of his behavior that should be modified.

4. Help teachers plan a strategy to modify their behavior.

5. Shift the responsibility for initiation and use of analysis and improvement strategies from the in-service leader to the teacher.

6. Help the teacher recognize the consequences of his teaching behavior.

7. Help the teacher internalize the feeling that he does exercise control over what goes on in the learning situation.

8. Guide group interaction of teachers to identify and hypothesize about common problems.

9. Guide group interaction to provide feedback to an individual about his teaching behavior.

10. Guide group interaction to provide support to teachers who are looking into their behavior and making an effort to modify it.

TEACHER FUNCTION

TO EXPLAIN THE ANALYSIS AND IMPROVEMENT PROCEDURES AND PROCESSES USED IN THE MOREL PROGRAM

1. Describe the rationale behind the MOREL program.

2. Introduce the analysis procedures and processes that are used in the MOREL program for in-service education.

3. Provide a resource collection on the findings of researchers pertaining to importance of the "technical skills of teaching" included in the program.

4. Demonstrate each of the diagnostic tools in the analysis and improvement strategies.

5. Provide opportunities for the teachers to see how diagnostic tools can be combined to provide a better analysis of an aspect of teaching that is important.

6. Guide group interaction to examine the importance of feedback and how it can be used in the classroom.

7. Demonstrate the modification of existing instruments and techniques.

8. Demonstrate how new instruments can be developed as the need arises.

TEACHER FUNCTION

TO PROVIDE THE TEACHERS WITH THE SKILLS FOR EACH ANALYSIS AND IMPROVEMENT STRATEGY

1. Explain the strategies for analysis and improvement of teaching behavior by describing the steps in each strategy and identifying the instruments and techniques that are essential for effective use of strategies.

2. Provide the teachers with the opportunity to determine skills that they will have to acquire in order to use the choosen strategy.

3. Devise a strategy or lesson plan to help the teacher acquire the skills (coding, matrix interpretation, goal statements, use of video tapes, etc.) needed for use of the analysis and improvement strategy.

4. Establish goals in behavioral terms for each of the skills to be acquired so that progress in the skill development can be seen.

5. Teach the skills that are required for use of the analysis and improvement system.

6. Provide an opportunity for the teacher to practice the skills as he is acquiring them.

7. Provide opportunities for the teacher to tie the skills together and use the analysis and improvement strategy with support from the leader and/or other teacher participants in the program.

8. Assist the teacher in sharpening up his skill in the use of the strategy so that it becomes an even more effective tool.

9. Help the teacher evaluate his performance in accomplishing his goals.

10. Encourage teachers to continue the use of strategies for self analysis and improvement.

11. Introduce another strategy for analysis and improvement.

12. Provide opportunities for the teachers to develop their own strategies for analysis and improvement.

MEDIATOR OF RESEARCH

TO ASSIST TEACHERS IN BRIDGING THE GAP BETWEEN THE FINDINGS OF RESEARCH AND THE CLASSRCOM SETTING IN WHICH THE TEACHER OPERATES.

1. Provide the teachers with the results of research on each of the components of the MOREL program.

2. Provide the teachers with research findings that demonstrate that a teacher's behavior is a vital factor that affects student's learning.

3. Provide teachers with research that highlights the importance of a teacher's attitudes on the learning climate of the classroom as evidenced by student progress.

4. Help the teachers translate relevant research findings to the classroom situation that the teachers in the Field Action Unit are concerned with.

5. Locate resources for the teachers that are pertinent to the problems of teaching that they are working on.

6. Provide opportunities for teachers to "research" areas of interest to them.

7. Encourage teachers to conduct action research projects in their classrooms.

8. Provide opportunities for teachers to share their experiences with each other.

9. Provide feedback on the in-service program to MOREL so that the action research nature of implemented programs can be incorporated into further refinement and development.

PROGRAM ADMINISTRATOR FUNCTION

TO DEVELOP A CLIMATE WITHIN THE SCHOOL FOR ACCEPTANCE OF THE IN-SERVICE PROGRAM

1. Establish rapport with the school administration.

2. Explain the in-service program -- its rationale, goals, procedures, and requirements -- to the administration.

3. Explain the in-service program to the total staff of the building.

4. Establish and maintain channels of communication to keep the school informed of the activities going on in the program.

5. Participate in the school as a member of the faculty.

PROGRAM ADMINISTRATOR FUNCTION

TO MOTIVATE TEACHERS TO MAKE A COMMITMENT

1. Identify teachers in the building who might be interested in a program of analysis and improvement of their teaching behavior.

2. Explain the program to teachers.

3. Answer questions about the program that are raised by teachers.

4. Discuss goals, benefits, and problems that a participant might encounter in the program.

5. Explain the role of the in-service leader as he relates to teachers, school administrators, and the district.

6. Identify possible intrensic and extrensic benefits of the program.

7. Relate the program activities to the needs of the teachers in the program.

8. Provide opportunities for the teachers to experience a "payoff" from the program.

9. Use other teachers in the Field Action Unit to provide support and encouragement.

10. Utilize the principals of the program in all dealings with teachers where it is feasible.

PROGRAM ADMINISTRATOR FUNCTION

TO MAKE NECESSARY LOGISTIC ARRANGEMENTS TO PROPERLY SUPPORT THE PROGRAM

1. Make suitable time and space arrangements for conducting activities.
2. Make arrangements for human and material resources needed for the operation of program activities.
3. Make arrangements for use of substitutes when necessary.
4. See to it that the equipment is utilized effectively.
5. Coordinate analysis and improvement activities and procedures.
6. Supervise and schedule activities of para-professionals.
7. Document the in-service program as conducted.
8. Keep records necessary for on-going program.
9. Follow-up on the activities of teachers who participated in the program.
10. Set up an office in the school (s) where an in-service program is being conducted.

FLANDERS' INTERACTION ANALYSIS CATEGORIES

The Categories:--There are ten categories in the system. Seven are assigned to teacher talk and two to student talk. The tenth category classifies pauses, short periods of silence and talk that is confusing or noisy. The category system is outlined on page 7.

The seven categories assigned to teacher talk are divided into indirect and direct influence. Categories one through four represent indirect influence, categories five, six and seven represent direct influence.

Indirect influence encourages student participation and thereby increases his freedom of action. To ask a question, category four, is an invitation to participate and express ideas, opinions, or facts.

It is true that a question can leave very little freedom of action, but at least the student can refuse to answer, which involves more freedom than passive listening. The more general a question, the greater the opportunity to assert one's own ideas.

In category three, the teacher accepts, clarifies, or uses constructively the ideas and opinions of students. The students are rewarded and encouraged to further participation. Often teachers ignore what a student says; to acknowledge and make use of an idea is a powerful form of recognition.

To praise or encourage student participation, category two, is to solicit even more participation.

The ability to use the feeling tone of a student constructively, to react to feeling and clarify it, category one, is a rare skill. Teachers with this skill can often mobilize positive feelings in motivation and successfully control negative feelings that might otherwise get out of hand.

All of these actions tend to increase student participation, to reward student participation, and to give students the opportunity to become more influential. The net effect is greater freedom of action for the students.

Direct influence increases the active control of the teacher and often stimulates conformity and compliance. To lecture, category five, focuses the attention of the students on ideas chosen by the teacher. To give directions or commands, category six, is to direct the activities of the class with the intent of obtaining compliance.

Category seven refers to criticizing student behavior of justifying the teacher's use of authority. These actions concentrate authority in the hands of the teacher.

Direct influence tends to increase teacher participation and establish restraints to student behavior. The ensuing restriction of freedom may occur in terms of compliance to the teacher or be an adjustment to the requirements of problem solving activities. The net effect is less freedom of action for the students.

Of and by itself, neither direct nor indirect influence can be considered good or bad. Each type of influence has its place in the classroom.

The division of student talk into categories eight and nine provides an automatic check on freedom of student action within the system of categories. Usually, but not always, an excessive or above average pattern of direct teacher influence is associated with less student talk and the talk that does occur is usually in response to the teacher--category eight. An above average indirect pattern is usually associated with more student talk and this talk will have a higher proportion of self-initiated talk--category nine.

Flanders' Interaction Analysis Categories

The use of only two categories to record all kinds of student talk neglects a great deal of information, but the major purpose of these categories is the analysis of teacher influence. The greatest information will accrue from observation if category nine is used sparingly and only on those occasions when the communication is truly student initiated.

For example, a student answering the specific question of a teacher, giving the answer to a problem, or reading material is obviously category eight. Even a student giving an oral report is restricted to an outline and except for unusual circumstances is probably responding to teacher supported restraints.

Category nine should be used to indicate the expression of the student's own ideas in spontaneous interaction. General questions are often a clue that a student may be initiating his own ideas. When a teacher calls on a student who voluntarily raised his hand to speak and asks, "Have you anything to add, Robert?", the chances are that the use of category nine is correct.

The purpose of category ten is to record pauses, silences and periods of confusion as they occur during classroom interaction. It is not intended to record longer periods of silence or confusion, for example, those that are more than two minutes. The continuous use of this category for long periods of silence serves no useful purpose.

CATEGORIES FOR INTERACTION ANALYSIS

TEACHER TALK	INDIRECT INFLUENCE	1.* ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.
		2.* PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying, "um hm?" or "go on" are included.
		3.* ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas suggested by a student. As a teacher brings more of his own ideas into play, shift to category five.
		4.* ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.
	DIRECT INFLUENCE	5.* LECTURING: giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions.
		6.* GIVING DIRECTIONS: directions, commands, or orders to which a student is expected to comply.
		7.* CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
STUDENT TALK		8.* STUDENT TALK--RESPONSE: a student makes a predictable response to teacher. Teacher initiates the contact or solicits student statement and sets limits to what the student says.
		9.* STUDENT TALK--INITIATION: talk by students which they initiate. Unpredictable statements in response to teacher. Shift from 8 to 9 as student introduces own ideas.
		10.* SILENCE OR CONFUSION: pauses, short periods of silence and periods of confusion in which communicatinn cannot be understood by the observer.

INCLUSIONS AND GROUND RULES

1's

Recognition or use of student feeling.
Example - I know you don't want to but... Don't worry about your grades.
Any reference to student feeling--even a projection on the part of teacher.

2's

Wherever there is an obvious attempt at humor on the part of the teacher.

Do not code verbal tics--good, fine--as praise unless they are perceived by students as same.

3's

Simple repetition of ideas is coded with a circle. - (3)

When teacher writes student's ideas on board, use a square - [3]

When a teacher's question makes use of a student's contribution 3 - 4.

4's

Any statement that elicits an answering response is a 4.
Example - Teacher says: Columbus discovered America in _____.

When answerer volunteers--same 4 unless additional time lapse, (4 - 4).

Questions used as homework review 4H.

5's

Yes and no teacher responses are 5's.

When a teacher answers a student's question that seeks clarification or additional information.

Writing information on board is 5 with a square - [5]

(Explanation of directions is 5.)

6's

Any request for repetition is a 6.

7's

Any statement perceived as criticism.

When a teacher justifies authority.
Example - Look, I'm the teacher.

8's

When one right answer exists.

Student limited chorus response is 8+.

Yes and no responses.

Wrong answers.

9's

When a student chooses from numerous alternatives.

Irrelevant responses.

Student unrestricted chorus response is 9+.

Student question.

Student statement without provocation.

Student opinion -----

Student giving information in addition to that sought by the question.

Student to student discussion.

10's

Keep margin notes whenever possible.

Separate student to student talk with small 10.

9 to 9

General Rules

Code furthest from 5 when in doubt.

Teacher picking one answer out of many is 4 - 9+ - 3.

IA CODING FORM

1. _____	1. _____	1. _____	1. _____
3. _____	3. _____	3. _____	3. _____
5. _____	5. _____	5. _____	5. _____
7. _____	7. _____	7. _____	7. _____
9. _____	9. _____	9. _____	9. _____
11. _____	11. _____	11. _____	11. _____
13. _____	13. _____	13. _____	13. _____
15. _____	15. _____	15. _____	15. _____
17. _____	17. _____	17. _____	17. _____
19. _____	19. _____	19. _____	19. _____
21. _____	21. _____	21. _____	21. _____
23. _____	23. _____	23. _____	23. _____
25. _____	25. _____	25. _____	25. _____
27. _____	27. _____	27. _____	27. _____
29. _____	29. _____	29. _____	29. _____
31. _____	31. _____	31. _____	31. _____
33. _____	33. _____	33. _____	33. _____
35. _____	35. _____	35. _____	35. _____
37. _____	37. _____	37. _____	37. _____
39. _____	39. _____	39. _____	39. _____
41. _____	41. _____	41. _____	41. _____
43. _____	43. _____	43. _____	43. _____
45. _____	45. _____	45. _____	45. _____
47. _____	47. _____	47. _____	47. _____
49. _____	49. _____	49. _____	49. _____
51. _____	51. _____	51. _____	51. _____
53. _____	53. _____	53. _____	53. _____
55. _____	55. _____	55. _____	55. _____
57. _____	57. _____	57. _____	57. _____
59. _____	59. _____	59. _____	59. _____
61. _____	61. _____	61. _____	61. _____
63. _____	63. _____	63. _____	63. _____
65. _____	65. _____	65. _____	65. _____

	1	2	3	4	5	6	7	8	9	10	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
TOTALS											
% C.T.											
% T.T.											

% S.T.

INTERACTION ANALYSIS SONG

(Tune: As the Caissons Go Rolling Along)

A 1 or 3, that's for me
Indirect as I can be
As those tallies go rolling along

A 7 or 6 can be fixed
As we teach you some new tricks
As those tallies go rolling along

If you seem confused
Skill sessions can be used
Behavioral objectives we'll portray;
Although our silly style
May cause a laugh or smile
It's all part of the game
Called role play.

How can I get a 3
When I love authority
And those 7's come so naturally?

Get in the groove, join the move
And your doubts we will remove
As we show you how teachers improve.

What we hope to do
Is reveal yourself to you
We'll study your teaching with this aim;
The most direct guy
Can push his I/D high
As we join in the Interaction Game. "

M I C H I G A N - O H I O
R E G I O N A L E D U C A T I O N A L L A B O R A T O R Y

MOREL INSERVICE TEACHER EDUCATION PROGRAM

Subscripting Coding To Be Used With Teaching Skills

October, 1968

Accepting Student Feeling

Flanders Category 1

11 Ignoring Expressed Student Feeling

12 Verbally Accept Student Feeling

13 Non-Verbally Accept Student Feeling

14 Limited Acceptance of Student Feeling

22 Praise and Encourage

33 Use Student Ideas

44 Questions

55 Lecture

66 Directions

77 Criticism

88 Limited Student Response

99 *Unlimited (Student Initiated) Response

* Student Response can be sub-scripted- See using student ideas

Using Student Ideas
Flanders Category 3

11 Accepts Feeling

22 Praise and Encouragement

31 Building and Developing the Student's Ideas

32 Rejection of Student's Idea (Verbal)

33 No Comment After Student Verbalized an Idea

34 Limited Use of Student Ideas
(Simple repetition Yes, OK, Nodding Head, etc.)

41 Facts

42 Other Than Facts

55 Lecture

66 Give Direction

77 Criticism

88 Limited Student Response

91 Personal Experience, Opinion, Example

92 Student Question

93 Irrelevant Answer

Praise and Encouragement

Flanders Category 2

11 Accepts Student Feeling

21 Humor

22 Verbal Praise

23 Non verbal Praise (nodding of head, smiling)

24 Encouragement (go on, fine, yes?, tell me more)

25 Extended use of any one phrase from Category 24

33 Accepts Student Ideas

44 Questions

55 Lecture

66 Give Direction

77 Criticism

88 Limited Student Response

91 Personal Experience, Opinion, Example

92 Student Question

93 Irrelevant Answer

Questioning --

Flanders Category 4

11 Accept Student Feeling

22 Praise and Encourage

33 Use Student Ideas

41 Closed (Facts)

42 Open -- Raise level of abstraction

43 Lower level of abstraction

44 Define or clarify statements or terms --

55 Lecture

66 Directions

77 Criticism

88 Limited Student Response

91 Personal experience, opinion, example

92 Student Questions

93 Irrelevant Answer

Flanders Categories 1, 2, 3,

Reinforcement

11 Ignoring Student Feeling

12 Accepting Student Feeling

21 Verbal Praise (fine, that's good)

22 Verbal Encouragement (continue, good, yes? Tell me more, etc)

31 Rejection of Student Ideas

32 Non-Verbal Rejection of Student Idea

33 Building and Developing Student Ideas

44 Questions

55 Lecture

66 Give Directions

77 Criticism

88 Limited Student Response

91 Personal Experience, Opinion, Example

92 Student Question

93 Irrelevant Answer

Establishing Set

Flanders Category 5

11 Accepts Feelings

22 Praise and Encourage

33 Use Student Ideas

41 Open Questions

42 Closed Questions

51 States Goals of Lesson

52 States Behavioral Outcomes Expected by Students

53 Introduces New Material by Relating it to Previous Knowledge

54 States Time Sequence of Activities

55 Introduces New Material by Relating to to Past Experiences of Students

56 Lecture

66 Give direction

77 Criticism

88 Limited Student Response

99 Unlimited Student Response

Recognizing and Obtaining Attending Behavior
Flanders Category 5, 6, 7

11 Accept Feeling

22 Praise and Encourage

33 Use Student Ideas

44 Questioning

51 Explain or Clarify Ideas

52 Relate New Ideas to past Knowledge

55 Lecture

61 Explains Directions

62 Provides Alternatives

66 Give Directions (Gen'l)

71 Verbally Notes Non-Attending Behavior

72 Justifies Teacher Authority

88 Limited Student Response

99 Unlimited Student Response

Closure

Flanders Category 5

11 Accept Feelings

22 Praise and Encourage

33 Use Student Ideas

41 Open Questions

42 Closed Questions

51 Hastily Sums up Lesson

52 Sums up Lesson by Relating New Material to Previous Knowledge

53 Has Student Sum Up Lesson

55 Lecture

66 Give Directions

77 Criticism

88 Limited Student Response

99 Unlimited Student Response

Explaining and Clarifying Ideas
Flanders Category 5

11 Accept Feelings

22 Praise and Encourage

33 Use Student Ideas

44 Questions

51 Explain or Clairfy Idea

52 Relate New Idea to Former Student Idea

53 Relate New Idea to Previous Teacher Ideas

55 Lecture

66 Give Directions

77 Criticism

88 Limited Student Response

99 Unlimited Student Response

Providing Feedback To Students
Flanders Categories 5, 7

11 Accept Feeling

22 Praise and Encourage

33 Use Student Ideas

44 Questions

51 Positively Relates Class Performance to Stated Goals

52 Relates Individual Performance to Stated Goals

55 Lecture

66 Give Directions

71 Negatively Relates Class Performance to Stated Goals

72 Negatively Related Individual Performance to Stated Goals

77 Criticism

88 Limited Student Response

99 Unlimited Student Response

Explaining and Clarifying Ideas
Flanders Category 5

11 Accept Feelings

22 Praise and Encourage

33 Use Student Ideas

44 Questions

51 Explain or Clarify Idea

52 Related New Idea to Former Student Idea

53 Related New Idea to Previous Teacher Ideas

55 Lecture

66 Give Directions

77 Criticism

88 Limited Student Response

99 Unlimited Student Response

Student Participation (Quality)
Flanders Category 9

Directions:

Build three digit coding scheme using 9 as first digit and student i.d. number as second and third digits, i.e. 901, 902, 911, etc. The student i.d. numbers are given out and recorded on a seating chart which the coder must be familiar with before attempting to code the class.

Example:

Teacher Talk:	333	Using student ideas
	444	Questions
	555	Lecture
Student Talk:	901	Student one - Mary Jones
	902	Student two - Billy Smith
	etc.	

Student Participation (Quality)
Flanders Categories 3, 9

11 Accepts Feelings

22 Praise and Encourage

31 Building and Developing Student Ideas

32 Limited Use of Student Ideas

33 No Comment After Student Ideas

41 Open Question

42 Closed Question

55 Lecture

66 Give Directions

77 Criticism

88 Limited Student Response

91 Personal Experience, Opinion, Example

92 Relevant - Question

93 Irrelevant Question

94 Irrelevant Answer

PROBING QUESTIONS

Probing Questions are used to prompt, move, induce, inspire, and help students to respond; helps students to go beyond their first response; demonstrate the difference between factual inquiries i.e., how much? What is? How would you? How else; requires translation, interpretation, extra polation, identification, discovering, synthesizing, and analyzing. This response (to bridge the credability gap) needs acceptance in relationship to their own community and then to the global community.

TEACHER BEHAVIOR:

1. The teacher will ask student to define his terms he uses.
2. The teacher will ask student to give examples.
3. The teacher will ask student to give data to support his response. (This procedure is cyclical as questions progress.)
4. The teacher will be acceptive of and receptive to the students responses in light of his own student experiences.
5. The teacher will reconstruct her question when applying to the global community.
6. The teacher will ask questions to clarify concepts of content and practice i.e., in the larger community.
7. The teacher wil demonstrate; she is listening.
8. The teacher will articulate appropriate frames of references.
9. The teacher will articulate questions which will guide discussions and work tasks that will reflect the interests and abilities of the students.
10. The teacher will articulate the use of student ideas and build questions on student ideas.
11. The teacher will articulate questions that will match pace of the students demonstrated capacity for absorbing information, organizing, relating to experiences, making inferences.

STUDENT BEHAVIOR:

1. The student recognizes that he can respond in light of his own real life experiences and/or global information.

   a. articulates his own steps in problem solving
   b. expresses possible answers
   c. expresses and/or explores alternative solutions
   d. seeks new and different experiences
   e. accepts or rejects ideas on basis of evidence
   f. can challenge ideas
   g. verbalizes, questions, concerns, ideas, feelings, beliefs, intentions, plans

CLARIFYING QUESTIONS

Clarifying Questions are those questions used to gain a common understanding of a statement or an idea.

In any class discussion it is not unusual to find one or both of the following conditions existing: 1) a number of the participants do not understand what a fellow student has said, or 2) a number of participants may think they understand what was said but in fact their interpretation is far from what was intended.

In order to develop maximum involvement in class discussion it is most important there be as high a degree of common understanding as possible. As a teacher makes an effort to achieve maximum understanding, Clarifying Questions can be a big help. It should always be the aim of the teacher to ask clarifying questions in a supportive, encouraging way. Following are some examples of Clarifying Questions.

Always in a supportive, encouraging way a teacher may:

1. Ask a student to explain a little more fully what he is saying.

   "Jim, what you have just said is a good point. Could you help us by explaining a little more fully your ideas?"

2. Ask a student to define in his words a few key points.

   "Jim, it would help us to understand more fully if you would tell us what you mean by- - - -."

3. Ask a student to give an example or a for instance.

   "Jim, your statement is a good one. Could you give us an example of how what you have just said might work?"

4. Ask a participant to give an example or a for instance.

   "Bill, what Jim just said is important, for us to understand, could you help us be sure we aren't misinterpreting what he he said by giving us an example?"

5. Ask a member of the class to explain in his words what was just said.

   "Bill, what Jim said is an important thought. Could you help us be sure we understand what Jim meant by explaining what you thought he said?"

6. Ask the person who has contributed to ideas or statement to "check out" with another member of the class what he thought was said.

   "Jim, could you check out with someone what they understood you to say?"

7. To ask a student to repeat what he said.

   "Jim, would you repeat what you just said?"

8. To paraphrase what a student just said and then ask him and a few others if that is what was meant.

   "Jim, please stop me if I am not saying what you meant. My understanding of what you said was - - -. Is this what you meant, Jim?"

Paraphrasing a student's remarks and then asking if this is what they meant is at times risky. In some cases the student may agree with what the teacher said even though this is not what he intended. It is a good policy to always put the burden of clarifying back on the student.

These are only some of a number of probable examples of how a teacher might ask Clarifying Questions for the purpose of gaining common understanding in a class discussion. It is most important that in the process of asking Clarifying Questions, the teacher does not infer a student's statement is not worthy.

Questions That Raise or Lower the Level of Abstraction

Definition:

Questions that raise or lower the level of abstraction are those which cause the student to make use of higher or lower mental processes.

Levels of Abstraction:

The levels of abstraction may be identified by referring to Bloom's categories of thinking:

1. Memory
2. Translation
3. Interpretation
4. Application
5. Analysis
6. Synthesis
7. Evaluation

Each of the above will be further defined.

MEMORY: - recalling or recognizing information:

This category of thinking is practically self explanatory but it should be noted that more complex mental processes can not take place until the facts or information have been remembered. These questions usually ask what, when or where.

TRANSLATION: - changing given information into one's own words or into another form.

Many times a teacher will want to check a student's understanding of information that thas been given to him. A question that calls for the student to "translate" the given information into his own words of another form can often accomplish this.

INTERPRETATION: - discovering and explaining relationships between facts, generalizations, definitions, values and skills.

On the level of interpretation, the student should be able to take given sets of information and make comparisons according to their similarities or differences. The student should be able to determine which ideas, by implication, will result based upon certain specific information. When a student is unable to perform at this level of abstraction, it is necessary for the teacher to lower the level of abstraction by asking a question that calls for either translation or memory. *This statement holds true for each of the following levels of abstraction and will therefore include all previous levels of abstraction.

APPLICATION: - solving problems through identification of issues and selection of appropriate generalizations and skills.

The application question should be designed so that it gives the students practice in the transfer of knowledge. These questions should have the following characteristics:

1. the knowledge asked for should have explanatory or problem-solving power
2. the knowledge should be dealt with in its entirety rather than in parts or segments
3. the question should contain a minimum of directions since it is based on previously learned material and thus the students should know what to do

*See interpretation on previous page:

The application question differs from the interpretation question in that it requires the student to go beyond just knowing an abstraction and being able to demonstrate its use when asked to do so; in application, the student must, when presented with a problem, apply the appropriate abstraction without being told which abstraction is correct and without having to be instructed in the use of the abstraction for the siutation in question.

ANALYSIS: - systematic examination of facts in order to solve problems:

Analysis, as a category, differs from the lower levels of application and interpretation in that the teacher must know and teach to the students the rules for reaching valid conclusions. The analysis question, in the strictest sense, is a little more difficult to use in the classroom but teachers should become aware of the reasons for using them:

1. Teach students to reason from the specific to the general (INDUCTION). Rules that provide standards for the quality of an inducted generalization.
   a. observation of a number of instances
   b. observation of no contrary instances
   c. non-verbal character of the phenomenon
   d. independent confirmation by deduction from more general laws

2. Teach students to reason from generalizations to specific instances (DEDUCTION).
3. Teach students to recognize and identify fallacies or common mistakes in reasoning.

The analysis question is usually posed in a way that would approximate the way the problem would be encountered outside of the classroom. The students are usually presented with an example of reasoning and are then instructed to analyze it.

SYNTHESIS: - solving a problem that requires original, creative thinking

The synthesis question offers to the student more freedom than is found in any previous levels of abstraction in that it is not limited to subject matter or particular processes that are stated or implied in the question. The student finds himself faced with a problem that offers a variety of possibilities from which he may derive many satisfactory answers (divergent thinking). In order to arrive at these answers, the student is encouraged to use whatever information or thought processes that he can summon. In using synthesis questions, it is important that the atmosphere of the classroom be such that the students know what the teacher does not have an answer in mind which the student is expected to duplicate.

EVALUATION: - making an assessment of good or bad, right or wrong, etc.. according to one's own standards:

In order for a question to qualify in the evaluation category, two characteristics must be present:

1. the student must set up appropriate standards
2. the student must determine whether or not the object or idea in question meets those standards

Before a student can properly evaluate, he must have preparation that falls in, primarily, the memory and interpretation categories but which also includes all other levels of abstraction. The student must also know something about the nature of values i.e., unlike facts, values can not always be determined to be true or false, therefore in evaluation, facts and values will not be treated in the same manner.

Lev. of Abs.	Teacher Goals	Student Behavior	Sequence	Examples
1. Memory	To have student know factual material	Recall facts as given	———	MEMORY - According to our author what presidents of the United States have been rated "superior" by historians in their contributions to our republic? What were the main contributions of each?
2. Translation	To have students demonstrate understanding of factual material	1. state given info. in one's own words 2. give definition for terms used in light of student's form experience	1. Remember the facts - then translate (2)	TRANSLATION - From our reading of the text about our constitution, will you please draw a chart, picture, diagram that illustrates the "separation of powers" of our government? Or, can you describe in your own words the main presidential contributions of Adams and Jefferson?
3. Interpretation	To have students show relationships between facts	1. determine whether ideas and facts are identical, similar, unrelated, different or contradictory (comparisons) 2. determine ideas which follow from specific evidence (implications) 3. show relationship of generalization to its supporting evidence 4. show relationship of a value, skill or definition to an example of its use.	1. remember the facts 2. translate 3. interpret the material	INTERPRETATION - are the contribution made by Washington and Lincoln to our republic, similar or disimilar? Or, what are the similar relationships between the contributions of Washington and Lincoln?
4. Application	To have students solve problems using previous knowledge	1. use previously learned materials or skills in new situations	1. Remember the facts 2. Translate 3. Interpret then Apply the material in new situations	APPLICATION- Based on the kinds of contributions of President's that historians have classified as superior, what current problems, if solved, would rate our present President as superior?

5. Analysis	1. To have students examine facts in order to solve problems	1. Reason from the specific to the general(inductive thinking) 2. Reason from the general to the specific (deductive thinking)	1. Remember 2. Translate 3. Interpret 4. Apply then 5. Analyze	Analysis - President Johnson will not ever be rated as a superior President. He has not ended the Vietnam war. He has not established justice with law and order. He has established a credibility gap. Why is this conclusion valid or invalid?
6. Synthesis	1. To have students examine alternative methods of solving problems 2. To offer students freedom in selection of solutions	1. Bring together all facts to offer many possible solutions to given problem	1. Remember 2. Translate 3. Interpret 4. Apply 5. Analyze then synthesize (6)	Synthesis - Based on your knowledge, how can the President of the U.S. make a contribution to our republic and still extricate us from the Vietnam war.
7. Evaluation	1. To have students make an assessment of value according to their own standards	1. Set up appropriate standards 2. Determine whether ideas or objects meet the standards as set up	1. Remember 2. Translate 3. Interpret 4. Apply 5. Analyze 6. Synthesize then 7. Evaluate	Evaluation - What do you think makes a "superior" President and do or do not the last two presidents meet these standards?

All steps in the sequence are not necessarily done for each problem that is discussed in the classroom

"Why the Skill of Questioning"

The art of questioning is basic to teaching and learning. Questions are the teacher's tools of the trade. They are the instruments used to provoke thoughts, from the simplest form of response, to a creative endeavor. A good question arouses interest, motivates, developed logical thinking, the ability to understanding.

An often heard objective of teachers is to enable pupils to become critical, effective, and creative thinkers. In developing plans to carry out this objective however, one procedure which is usually not mentioned in lesson plans is the effective use of the question. This is indeed shocking, for the cornerstone of teaching is the use of questions, by teachers and students. The importance of the use of questioning in teaching and learning was recognized by the maters of pedagogy.[1]

Learning comes as a result of experiences. Students are confronted with a problem, task, or situation which is capable of arousing an intellectual and emotional response within them. Each experience students undergo changes them in some way. Through the skillful use of questions students can be brought to see a deeper meaning to their experiences. The art of questioning is the teacher's most effective technique. It helps the teacher

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1 Socrates, who ranks among the greatest of teachers, used questions with great skill

to provide experiences, happenings for children. It is what happens to children that is important. Teachers need to judge, evaluate the effects of their techniques have upon their students. In keeping with this, teachers must have a reason for asking the questions they ask, use the skill carefully, and then evaluate the student response.

Surveys indicate that over 90% of the questions teachers ask call only for recall, reproduction of what is in the textbook. When this is mentioned to teachers, they ask "What other kinds of questions are there?"

Teachers need help in structuring questions, so they require more than recall. What are questions that require translation, interpretation, application, analysis, synthesis and evaluation? Helping students to be sensitized to questions asking is as important as answer finding. The purpose then of this material on questioning skills is an endeavor to help teachers become acquainted with different kinds of questions, some ideas on how to use them for what purposes, and give teachers a chance to practice this skill.

One of the best ways to define skills is be listing their characteristics.[2]

1. a physical, emotional, and/or intellectural process
2. requires knowledge, but knowledge alone does not insure proficiency
3. can be used in a variety of ways.
4. can be improved thru practice
5. often made up of a number of sub-skills that can be identified and practiced separately.

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[2]Classroom Questions, What Kinds? Morris M. Sanders, Harper & rowe, 1966.

POSSIBLE STUDENT BEHAVIORS

TEACHER SKILLS	THE STUDENT	OBSERVABLE ACTIVITIES
USING STUDENT IDEAS Definition: Restatement, clarification, building or developing ideas expressed by a student.	1. is motivated A. to learn B. to be industrious	1. expresses his interest 2. seeks tasks 3. inititates activities 4. tries alternative solutions 5. seeks help
	2. solves problems	1. articulates problems and initiates solutions 2. asks questions of self and others 3. recognizes the possibility of alternative solutions 4. relates problems to past experiences 5. accepts or rejects ideas based on evidence
	3. examines ideas	1. presents ideas and theories 2. seeks new and different experiences 3. accepts or rejects ideas based on evidence 4. relates new ideas to previous knowledge 5. asks relevant questions
	4. becomes an inquirer	1. See #3 --- examines ideas
	5. respects self	1 helps others 2. exhibits willingness to take risks 3. See #3 --- examines ideas
	6. is capable of self-direction	1. weighs the evidence and makes choices 2. challenges ideas 3. sets performance standards for himself 4. initiates activities 5. seeks new and different experiences
	7. is self-disciplined	1. sets performance standards for himself 2. makes considered choices 3. perseveres in carrying out a task

POSSIBLE STUDENT BEHAVIORS		
TEACHER SKILL	THE STUDENT	OBSERVABLE ACTIVITIES
PRAISING AND ENCOURAGING STUDENTS Definition: Approval of an action or idea when perceived by student as same.	1. is motivated A. to learn B. to be industrious C. to verbally participate	1. expresses his interest and ideas 2. seeks tasks 3. initiates more activities 4. finds alternative solutions 5. accepts help
	2. improves self-concept	1. helps others 2. accepts the risk of expressing own ideas 3. seeks new and different experiences 4. articulates problems and possible solutions
	3. exhibits more independence; self-direction	1. sets his own performance standards 2. weighs the evidence and makes choices 3. See #2 - improves self-concept

POSSIBLE STUDENT BEHAVIORS

TEACHING SKILL	THE STUDENT	OBSERVABLE ACTIVITIES
ESTABLISHING SET Definition: Providing readiness and rapport for student involvement in the lesson.	1. is motivated A. to learn B. to be industrious	1. expresses his interest 2. seeks tasks 3. initiates activities 4. tries alternative solutions 5. seeks help
	2. is receptive to lesson	1. relates new knowledge to past experiences 2. asks relevant questions 3. looks for alternative solutions 4. accepts direction from teacher 5. initiates activities 6. strategies as defined by teacher, and self
	3. is ready to listen	1. attentive behavior 2. responds to questions 3. challenges ideas that differ from his own (clarification of others ideas)

	POSSIBLE STUDENT BEHAVIORS	
TEACHER SKILL	THE STUDENT	OBSERVABLE ACTIVITIES
CLOSURE Definition: The pulling together of major purposes, principals and content of a lesson, or portion of a lesson, so that students can relate new knowledge and experience to past knowledge and experiences	1. solves problems	1. asks questions of self and others 2. recognizes the possibilities of alternative solutions 3. relates problems to past experiences 4. accepts and rejects ideas based on evidence
	2. is motivated for future learning	1. seeks new tasks, experiences and ideas 2. seeks help 3. examines ideas 4. is willing to take risks 5. weighs evidence and makes choices 6. sets his own performance standards

	POSSIBLE STUDENT BEHAVIORS	
TEACHER SKILL	THE STUDENT	OBSERVABLE ACTIVITIES
RECOGNIZING (1) AND OBTAINING (2) ATTENDING BEHAVIOR Definition: (1) Noting through visual cues of facial expression, eye contact, body posture, etc., indications of interest or boredom comprehension or bewilderment. (2) ability to elicit it from students interest and comprehension.	1. is motivated A. for learning B. for participation	1. asks questions 2. answers questions 3. articulates problems and initiates solutions 4. seeks help
	2. is receptive of lesson	1. relates new knowledge to past experiences 2. aks relevant questions 3. looks for alternative solutions 4. accepts direction from teacher 5. self-directed activities engages in
	3. is ready for problem solving	1. listens 2. asks questions and offers possible answers 3. accepts direction from teacher 4. accepts or rejects ideas based on evidence

	POSSIBLE STUDENT BEHAVIORS	
TEACHER SKILL	THE STUDENT	OBSERVABLE ACITIVITIES
ENCOURAGING AND CONTROLLING STUDENT PARTICIPATION Definition: Actively involving students in the lesson and directing their contribution toward the goal of the lesson	1. is motivated to learn	1. expresses his ideas 2. seeks new ideas 3. asks questions which are relevant and significant to the lesson 4. seeks clarification of his own and others ideas
	1. is an inquirer	1. presents ideas and theories 2. seeks new and different experiences 3. accepts or rejects ideas based on evidence 4. relates new knowledge to past experiences 5. asks questions and offers possible solutions

	POSSIBLE STUDENT BEHAVIORS	
TEACHER SKILL	THE STUDENT	OBSERVABLE ACTIVITIES
PROVIDING FEEDBACK TO STUDENTS Definition: Providing information to students so that they will know how they are perceived by teacher and peers	1. is motivated to learn	1. expresses his interests 2. seeks tasks 3. initiates activities 4. tries alternative solutions 5. seeks help
	2. communicates better	1. verbalizes questions, feelings, and beliefs 2. defines terms 3. clarifies ideas 4. listens and responds
	3. solves problems	1. articulates problems and initiates solutions 2. ask questions of self and others 3. recognizes the possibilities of alternative solutions 4. relates problems to past experiences 5. accepts or rejects ideas based on evidence
	4. is receptive to lesson	1. relates new knowledge to past experiences 2. asks relevant questions 3. looks for alternative solutions 4. accepts direction from teacher 5. initiates activities 6. states goals as defined by teacher and self

TEACHER SKILL	POSSIBLE STUDENT BEHAVIORS	
	THE STUDENT	OBSERVABLE ACTIVITIES
ACCEPTING STUDENT FEELING Definition: Any act or statement which recognizes the feeling of students without expressing teacher judgment	1. is motivated to learn	1. expresses feeling openly 2. initiates activities and ideas 3. tries alternative solutions 4. seeks help 5. shows interest 6. expresses ideas
	2. helps others	1. listens to ideas of others 2. accepts others 3. accepts others' ideas
	3. respects self	1. is willing to take risks 2. presents ideas and theories 3. seeks new and different experiences 4. relates old knowledge to previous experiences 5. asks relevant questions
	4. communicates better	1. verbalizes questions, concerns, ideas, beliefs, concerns, feelings intentions, plans 2. defines terms 3. clarifies ideas 4. listens and responds

TEACHER SKILL	POSSIBLE STUDENT BEHAVIORS	
	THE STUDENT	OBSERVABLE ACTIVITIES
PROVIDING REINFORCEMENT Definition: Strengthening of student behaviors through the use of rewards and punishments.	1. is motivated A. to learn B. to be industrious C. to participate	1. expresses interest 2. seek tasks 3. initiate activities 4. trys alternative solutions 5. seeks and accepts help
	2. feels self-worth	1. helps others 2. expresses interest 3. makes considered choices 4. challenges ideas 5. accepts risks 6. participates

	POSSIBLE STUDENT BEHAVIORS	
TEACHER SKILL	THE STUDENT	OBSERVABLE ACTIVITIES
EXPLAINING AND CLARIFYING IDEAS Definition: Actions of students and/or the teacher that facilitates communication by making ideas clearer	1. communicates better	1. verbalizes questions, concerns, ideas, beliefs, feelings, intentions and plans 2. defines terms 3. clarifies ideas 4. listens and responds
	2. solves problems	1. articulates problems and initiates solutions 2. asks questions of self and others 3. recognizes the possiblity of alternative solutions 4. relates problems to past experiences 5. accepts or rejects ideas based on evidence

	POSSIBLE STUDENT BEHAVIORS	
TEACHER SKILL	THE STUDENT	OBSERVABLE ACTIVITIES
ESTABLISHING APPROPRIATE FRAMES OF REFERENCE Definition: Looking at an idea or problem from a point of view that is in keeping with the needs and interests of the students.	1. is motivated to learn	1. expresses his interest 2. seeks tasks 3. initiates activities 4. tries alternative solutions 5. seeks help
	2. communicates better	1. relates new knowledge to past experiences 2. verbalizes questions, concerns, ideas, beliefs, intentions and plans 3. defines terms 4. clarifies ideas 5. listens and responds

ASKING OPEN QUESTIONS

definition: Open questions are those which call for more than simple memory or recall.

objectives:

1. to encourage student participation
2. to help students change information into their own words
3. to help students discover and explain relationships between facts, generalizations, definitions, values and skills
4. to help students solve their problems through identification of issues and selection of appropriate generalizations and skills
5. to help students analyze facts in order to solve problems
6. to help students solve problems with original, creative thinking
7. to help students make judgements of good or bad, right or wrong, according to their own standards

rationale: One of the purposes of education is to give students tools which will help them gather knowledge as it is needed. Open questions generally require students to go through more complex processes of thinking in order to arrive at conclusions or recognize generalizations that can be made from any given set of facts. The teacher who uses open questions will usually get responses that show more creative, critical or original thinking by students.

ASKING CLOSED QUESTIONS

definition: Closed questions are those that call for reproduction of facts, formulas and other items of remembered content.

objectives:

1. To help students remember facts that can be used later in higher order mental processes, i.e. interpretation, evaluation, etc.
2. To help students remember generalization of concepts made by experts in various fields so that these generalizations can be applied in similar situations.
3. To help students remember definitions so that there will be a common base of communication.

rationale: When asking questions that call for remembered content, the tendency seems to be for teachers to ask about the most obvious, and sometimes, least important facts contained in student textbooks. Teachers should become aware of the concepts or generalizations or interpretations that they wish to pull from a particular lesson or unit of study and ask questions that will recall the facts needed to formulate these concepts.

GIVEN A LIST OF 15 QUESTIONS ON THE WRITING OF BEHAVIORAL OBJECTIVES, THE LEARNER WILL BE ABLE TO ANSWER NO LESS THAN 13 OF THESE QUESTIONS AT THE CONCLUSION OF THIS PRESENTATION.

SOME ADVANTAGES TO BEHAVIORAL OBJECTIVES

1. APPROPRIATE EVALUATION PROCEDURES CAN BE SELECTED.

2. SUITABLE LEARNING ACTIVITIES CAN BE SELECTED TO MEET THE CRITERIA OF THE BEHAVIORAL OBJECTIVE.

3. SPECIFICITY ALLOWS ONE TO EVALUATE WHETHER HE IS FOLLOWING THE PROPER COURSE.

4. STUDENTS CAN FOCUS THEIR ENERGIES TOWARDS RELEVANT TASKS.

5. TEACHERS CAN CHART THEIR OWN INSTRUCTIONAL GOALS.

6. MODIFICATION OF THE LEARNING ACTIVITIES TO MEET THE OBJECTIVE WHEN STUDENTS FAIL TO BEHAVE IN TERMS OF THAT OBJECTIVE.

COURSE DISTINCTIONS

PREREQUISITIES:
WHAT A LEARNER HAS TO BE ABLE TO DO TO QUALIFY FOR A COURSE.

DESCRIPTION:
WHAT THE

OBJECTIVES :
WHAT A SUCCESSFUL LEARNER IS ABLE TO DO AT THE END OF THECOURSE.

EXAMPLES:

1. IN ORDER TO TAKE AMERICAN HISTORY 2 YOU MUST HAVE COMPLETED AMERICAN HISTORY 1.

2. THIS COURSE WILL LOOK AT AMERICAN HISTORY FROM 1865 TO THE PRESENT. THE TEXT FOR THE COURSE IS THE "HISTORY OF THE UNITED STATES".

3. GIVEN A LIST OF FIFTEEN QUESTIONS THE FAU MEMBERS WILL BE ABLE TO ANSWER 13 OUT OF THE FIFTEEN AT THE CONCLUSION OF THIS PRESENTATION.

WORD INTERPRETATIONS

WORDS OF MANY INTERPRETATIONS:	WORDS OF FEWER INTERPRETATIONS:
TO KNOW	TO SPEAK
TO SEE	TO WRITE
TO UNDERSTAND	TO RECITE
TO REALIZE	TO LIST
TO APPRECIATE	TO COMPARE
TO GRASP THE SIGNIFI-	TO CONTRAST
CANCE OF	TO CONSTRUCT
TO ENJOY	TO MAKE
TO BELIEVE	TO DISPLAY
TO RECOGNIZE	TO LIST
TO HAVE FAITH IN	TO SOLVE
TO FULLY SENSE	TO DIFFERENTIATE

DIRECTIONS: ADD TO THE ABOVE LIST!

DEFINITIONS OF IMPORTANT TERMS

BEHAVIOR: ANY VISIBLE ACTIVITY BY A LEARNER

TERMINAL BEHAVIOR: REFERS TO THE BEHAVIOR YOU WOULD LIKE YOUR LEARNER TO BE ABLE TO DEMONSTRATE AT THE TIME YOUR INFLUENCE OVER HIM ENDS

CRITERION: IS A STANDARD OR TEST BY WHICH TERMINAL BEHAVIOR IS EVALUATED

EXAMPLES:

1. TO SOLVE
2. TO SOLVE A STORY PROBLEM AT THE CONCLUSION OF A ONE WEEK UNIT ON STORY PROBLEMS
3. GIVEN A LIST OF TWENTY STORY PROBLEMS A STUDENT WILLBE ABLE TO SOLVE 90% OF THE PROBLEMS CORRECTLY

THE SCHEME FOR CONSTRUCTION OF BEHAVIORAL OBJECTIVES:

1) IDENTIFY THE TERMINAL BEHAVIOR BY NAME: EVIDENCE THAT THE LEARNER HAS ACHIEVED THE OBJECTIVE.

2) TRY TO DEFINE THE DESIRED BEHAVIOR FURTHER BY DESCRIBING THE IMPORTANT CONDITIONS UNDER WHICH THE BEHAVIOR WILL BE EXPECTED TO OCCUR.

3) SPECIFY THE CRITERIA OF ACCEPTABLE PERFORMANCE BY DESCRIBING HOW WELL THE LEARNER MUST PERFORM TO BE CONSIDERED ACCEPTABLE.

DIRECTIONS : USE BEHAVIORAL OBJECTIVE OF THE LESSON ON TEACHING BEHAVIORAL OBJECTIVES.

QUESTIONS TO ASK TO DETERMINE THE CONDITIONS UNDER WHICH THE TERMINAL BEHAVIOR WILL DEVELOP

1. WHAT WILL THE LEARNER BE PROVIDED?
2. WHAT WILL THE LEARNER BE DENIED?
3. ARE THERE ANY SKILLS THAT YOU ARE SPECIFICALLY NOT TRYING TO DEVELOP ?

EXAMPLES

1) TO CONSTRUCT RADIOS
2) TO WRITE A POLITICAL SURVEY
3) DIRECTIONS : PLEASE CONSTRUCT THE CONDITIONS FOR THESE TERMINAL BEHAVIORS.

IMPORTANT ASPECTS OF BEHAVIORAL OBJECTIVES

1. A BEHAVIORAL OBJECTIVE TELLS WHAT A LEARNER IS TO BE LIKE

2. A MEANINGFULLY STATED BEHAVIORAL OBJECTIVE IS ONE THAT SUCCEEDS IN COMMUNICATING YOUR INTENT.

3. THE BEST STATEMENT EXCLUDES THE GREATEST NUMBER OF POSSIBLE ALTERNATIVES TO YOUR GOAL.

4. CAN ANOTHER COMPETENT PERSON SELECT SUCCESSFUL LEARNERS IN TERMS OF THE BEHAVIORAL OBJECTIVE SO THAT YOU, THE OBJECTIVE WRITER CONCUR WITH THE SELECTION?

5. ANOTHER WAY OF DESCRIBING BEHAVIORAL OBJECTIVES WOULD BE BY CALLING THEM PERFORMANCE OBJECTIVES.

6. THE BEHAVIORAL OBJECTIVE THAT IS MOST USEFULLY STATED IS THE ONE THAT BEST COMMUNICATES THE INSTRUCTIONAL INTENT OF THE PERSON SELECTING THE BEHAVIORAL OBJECTIVE.

7. THE BEHAVIORAL OBJECTIVE MUST BE STATED IN TERMS THAT INCLUDES TEST SITUATIONS YOU INTEND TO USE AND EXCLUDES IRRELEVANT TEST SITUATIONS. COSEQUENTLY , THE BEHAVIORAL OBJECTIVE IS STATED IN A CLEAR ENOUGH MANNER TO COMMUNICATE YOUR INTENT.

8. IF YOU GIVE EACH LEARNER A COPY OF YOUR BEHAVIORAL OBJECTIVES YOU MAY NOT HAVE TO DO MUCH MORE.

BEHAVIORAL OBJECTIVES QUIZ

I. DECIDE WHETHER THE STATEMENT IS STATED BEHAVIORALLY BY PLACING " YES OR NO " IN FRONT OF THE STATEMENT.

1. TO REALLY UNDERSTAND THE LAWS OF PROBABILITY.
2. TO KNOW THE NUMBERS OF THE DETROIT TIGER PLAYERS.
3. TO BE ABLE TO WRITE FIVE EXAMPLES OF MYSTERY PLOTS.

II. DETERMINE WHETHER THESE STATEMENTS ARE TRUE OR FALSE BY PLACING A "T" OR "F" IN FRONT OF THE NUMBER.

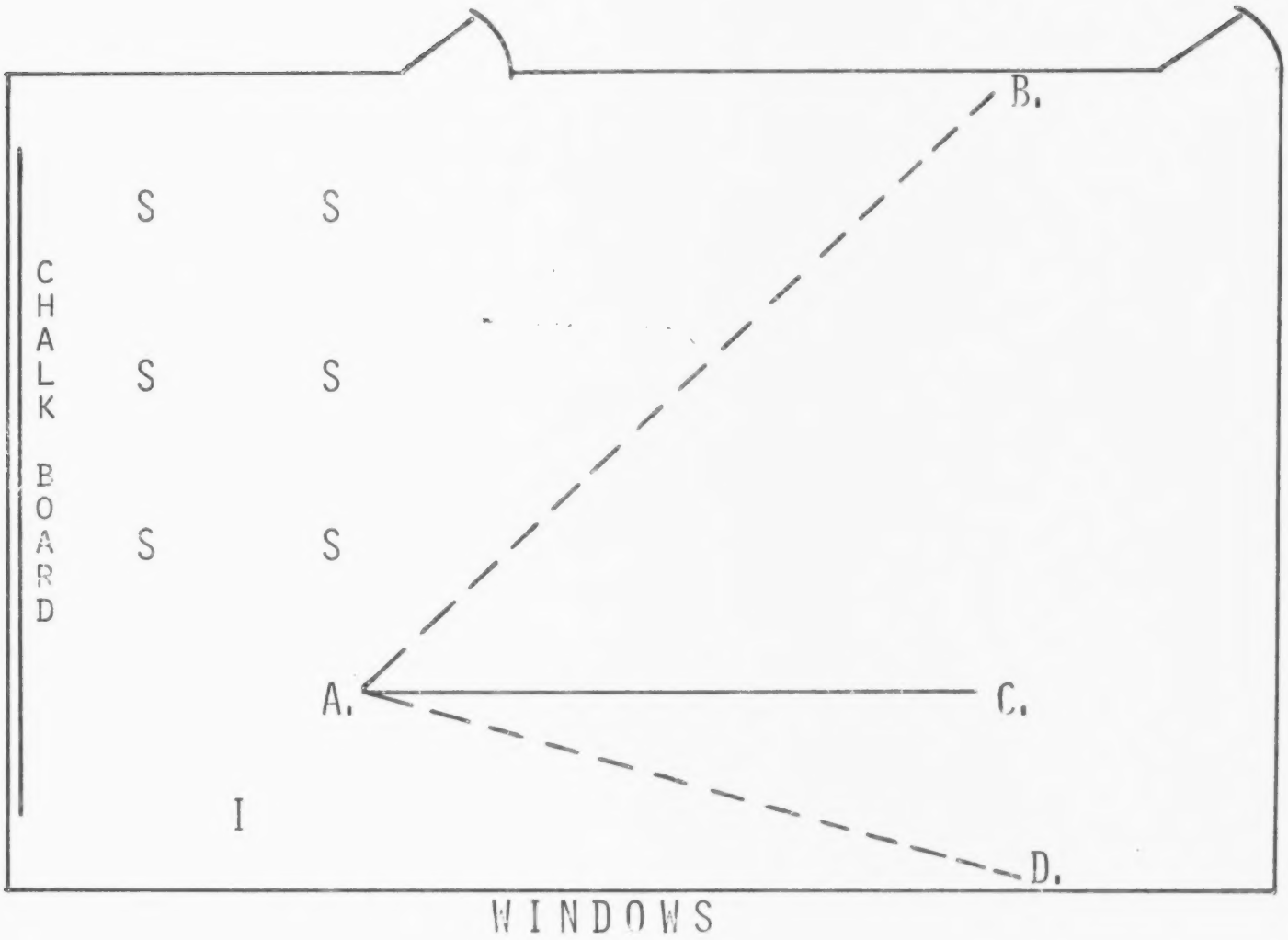
1. BEHAVIORAL OBJECTIVES MUST CONTAIN CONDITIONS.
2. BEHAVIORAL OBJECTIVES MUST CONTAIN TERMINAL BEHAVIOR EXAMPLES.
3. BEHAVIORAL OBJECTIVES MUST HAVE CRITERION FOR SUCCESS.
4. "TO BECOME AWARE OF" IS A GOOD EXPRESSION TO USE IN STATING OBJECTIVES IN BEHAVIORAL TERMS.

III. COMPOSE FIVE DIFFERENT OBJECTIVES CONCERNING FIVE DIFFERENT TOPICS, REMEMBER THAT A WELL CONSTRUCTED BEHAVIORAL OBJECTIVES CONTAIN:

1. THE BEHAVIOR DESIRED
2. THE CONDITIONS
3. THE CRITERIA OF SUCCESS

IV. WHAT ARE THREE ADVANTAGES OF WRITING INSTRUCTIONAL OBJECTIVES BEHAVIORALLY?

Diagram For Placement of Video
Equipment for Micro-Teach Situation



1. The camera (C) should be at the distance (line AC) where with an extreme wide angle picture the instructor (I) and all students (S) are included.

2. For the greatest flexibility, the area enclosed by points A, B, and D should be cleared to permit movement of the camera. If the camera is positioned at point D or along line AD views favoring the students will be possible also allowing views of the instructor. Conversely with line AB. As the camera nears point A the wide angle view of the camera is narrowed and the time required to change from a view of the instructor to a view of the students is increased and the greatest loss of picture continuity will be realized.